The Illustrated Encyclopedia of
CACTI

OVER 1200 SPECIES ILLUSTRATED AND IDENTIFIED

CLIVE INNES & CHARLES GLASS

VISIT…

LANZAROTE

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The Illustrated Encyclopedia of
CACTI

This new, totally authoritative visual directory is the ultimate guide to the fascinating world of cacti. With over 1,200 entries, each individually illustrated in full color, it is the ideal practical recognition handbook and working reference resource for amateur enthusiasts everywhere, containing all the information needed to identify individual plants and then to select the varieties that will look and grow the best in specific domestic situations. Each genus currently recognized as belonging to the Cactaceae family is represented, together with many of the inter-generic hybrids, which are currently arousing tremendous interest among cactus fans.

With back-up information on such essential factors as soil types, sun and shade requirements, maintenance and pests and diseases, *Cacti* is essential reading and reference for all the thousands of gardeners who have been bitten by the cactus bug and are interested in finding out as much as possible about these intriguing plants. The work has been prepared by world experts Clive Innes and Charles Glass; the classifications employed are completely up-to-date, making use of the new classification system which is now adopted as the international standard.

Front jacket pictures, clockwise from top left: *Armatocereus cartwrightianus*, *Chamaelobivia* 'Fire Chief', *Facheiroa* sp. nova, *Browningia microsperma*, *Gymnocalycium saglionis*.

Back jacket picture: *Coleocephalocereus estevesii*.

THE ILLUSTRATED ENCYCLOPEDIA OF CACTI

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CACTI

CLIVE INNES & CHARLES GLASS

KNICKERBOCKER
PRESS

A QUANTUM BOOK

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Title page picture: *Rebutia senilis*

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FOREWORD

The question most often asked about books on cacti is, "Where can I find one that is truly informative, with detailed photographs of a wide range of cacti from around the world?" Until now, disappointingly, the answer has been that there isn't one: the aim of this book is to fill that gap.

In producing such a mammoth book, the biggest problem is in organizing the material in a logical and simple way, and the obvious answer is by an alphabetical presentation. As with any branch of the natural sciences, however, the amateur cactus collector soon learns that there is no way of avoiding the botanical or Latin names, and that an understanding of taxonomy, or nomenclature (i.e. the principles of classification of plants, etc) will help to make life easier. Only a few cacti have such "user-friendly" names as 'Bunny Ears,' 'Prickly Pear,' 'Golden Barrel,' or 'Christmas Cactus': for the vast majority one has no alternative but to make one's peace with the Linnaean Binomial System of Nomenclature, foreign as it may sound at first. In this system, the botanical names of plants are in two parts: first the genus, then the species. Plants which closely resemble each other are classified in the same genus. The species name distinguishes different plants belonging to the same genus. In some cases there is a third varietal name, where a plant differs slightly from the species type, but not enough for it to be classed as a separate species.

Related genera are grouped into families, the relationship being based solely on flower structure. Family names end in the suffix *'aceae'*: thus *Cactaceae* is the cactus family. The cactus is a very large family, which including the hybrid genera amounts to over 150 genera and several thousand different species. The more popular the group the greater the proliferation of names and, eventually, the more those names are reshuffled in attempts to make sense of the groups in question. Occasionally, questionable motives have come into play, when a plant has been reclassified merely in order that an individual can have his or her name permanently attached to the plant in question. This has led the science of taxonomy to be unaffectionately referred to as "the name game."

In few groups of plants has the "name game" been so extensively played as in the cactus. Much good work with the classification of cacti has been done by amateurs and, it has to be said, much that is highly questionable to downright outrageous. The result is that some species have been shuffled and reshuffled into so many generic groups that it bewilders both student and botanist as to where, indeed, a particular plant belongs, and a reasonable and consistent classification becomes frustratingly unattainable.

FOREWORD

If we get too caught up in the "name game," we tend to forget that the plant is more important than what we call it, and that names are meant to be handles for the plants, not the other way around. In our opinion, the best way to put the emphasis back on the plants is through a pictorial compendium such as this one. Of course, those handles are necessary and one is faced with the necessity of espousing some sort of classification. A major classification of the *Cactaceae* was proposed back in the early 1920s by the American botanists, Britton and Rose. This has gained wide acceptance, but of course those species and genera which have been discovered since then are not included in that classification. In the 1960s an amateur German cactus enthusiast, Curt Backeberg, attempted another classification of the cactus family and his mammoth work filled no less than six volumes. His approach was very liberal, resulting in a proliferation of species and mini-genera, and his work did not always conform with proper, accepted procedure, so many of his new genera have to be considered as illegitimate. There have been many other revisions of groups or genera of the *Cactaceae,* but so far no other complete reclassification of the family to the species level.

We have attempted in this book to recognize as far as possible the most popularly accepted and practical classifications, while also recognizing the requirements of those amateur collectors who seek help in identifying their plants, and who may wish to acquire new species and varieties which they have not come across before. The main goal of this book, then, is to represent as many genera, species, and varieties of cactus as possible, along with color photographs, both of habitat and cultivation, and descriptive notes.

CLIVE INNES

CHARLES GLASS

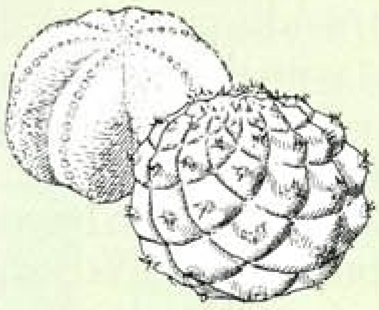
HOW TO LOCATE YOUR PLANT

For those of you who are not familiar with the names of cacti and may have some plants that you would like to try to identify and don't know where to start looking, the guide on this and the following spread may help. It gives a breakdown of the main groups of cactus, according to size and shape, and lists examples of each. Of course, some groups have members that may belong in two or more of these categories, so it can be no more than a sometimes fallible guide, but at least it will narrow the field.

Begin by determining which of the basic shape categories your cactus comes under. For example, is it columnar or globular? Once you have established its basic shape, decide to which sub-division the plant belongs. If the plant is globular, does it have very few spines or none at all, or is its dominant characteristic that it has prominent tubercles? (The line illustration above each sub-division will help further with identification.) Once the sub-division has been established look at the globular plants in each of the genera listed, and see if your cactus matches the description or picture. For instance, if you have decided your plant is globular with few spines, look at the globular Astrophytum entries on pages 28–31; does your cactus match picture or text description? If not, look under the globular Aztekium entry on page 32. Work your way through the sub-divisions until you find a match for your plant.

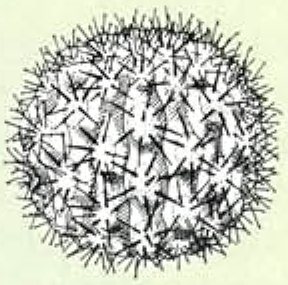
● GLOBULAR

Few or no spines



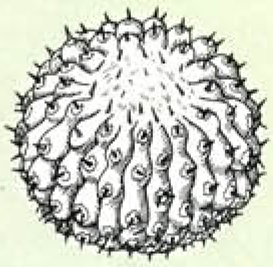
Astrophytum	28-31
Aztekium	32
Blossfeldia	33
Echinocereus	72, 77
Lophophora	150
Turbinicarpus	299-302

With fine spines



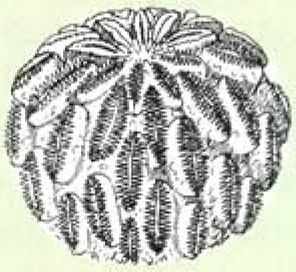
Acanthocalycium	18-19
Echinomastus	82
Epithelantha	103-104
Escobaria	106-107, 109
Frailea	122
Gymnocalycium	126-133
Mammillaria	153-168, 170-185

Spines straight, short



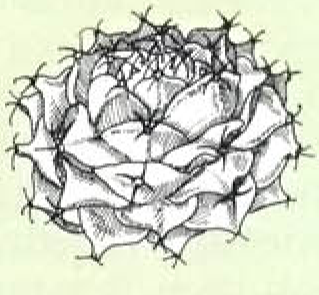
Echinocereus	68, 71, 73
Neolloydia	199
Neoporteria	200-202
Pediocactus	237-239
Pygmaeocereus	252-253
Sclerocactus	270-273
Thelocactus	289-293
Uebelmannia	303-305

Spines in comb-like formation



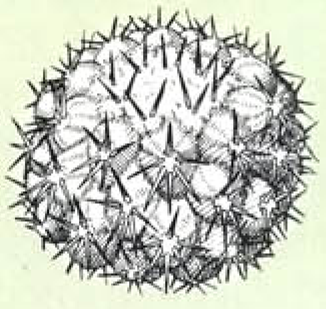
Buiningia	37
Pelecyphora	239

With flat or prominent tubercles (often scale-like)



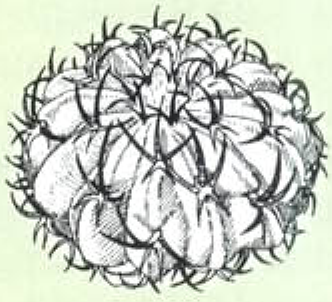
Ariocarpus	23-24
×Ferobergia	113
Leuchtenbergia	144
Neowerdermannia	203
Obregonia	206
Ortegocactus	227
Pelecyphora	239
Strombocactus	281

Woolly or spiny crown



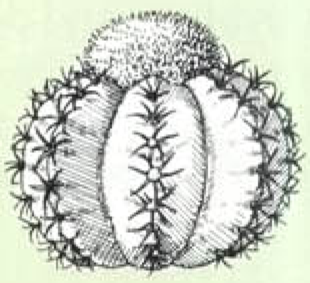
Copiapoa	47-49
Matucana	186-188
Notocactus	204-206
Oroya	226
Parodia	229-237
Weingartia	306-307

Prominent spination



Ancistrocactus	20
Coryphantha	51-58
Denmoza	59
Echinocactus	66-67
Echinocereus	73-76
Echinofossulocactus	80
Echinopsis	84-87
Eriosyce	105
Ferocactus	114-120, 121-122
Gymnocactus	123-125
Homalocephala	139
Lobivia	145-148
×Lobivopsis	148-149
Trichocereus	295

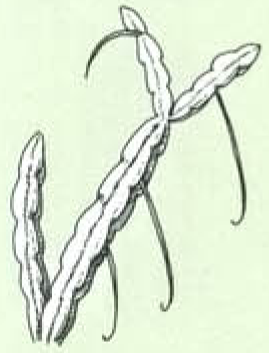
With prominent cephalium



Discocactus	60-63
Melocactus	188-191

HOW TO LOCATE YOUR PLANT

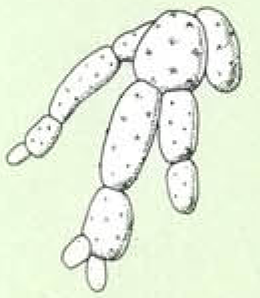
CLIMBING



Hylocereus	139-140
Seleliocereus	273
Selenicereus	273-275
Strophocactus	281

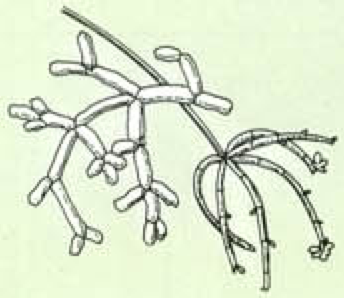
PENDENT

Segmented pendent



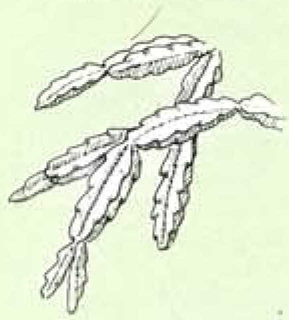
Acanthorhipsalis	19
Rhipsalidopsis	259
Rhipsaphyllopsis	265
Schlumbergera	266-269

More or less tubular pendent



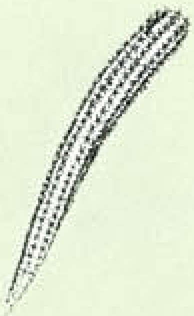
Hatiora	137
Lepismium	142-144
Rhipsalis	260-264

Angular (stems) pendent



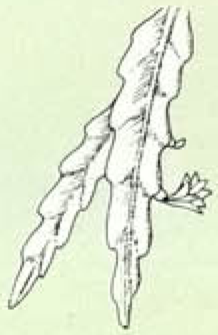
Aporoheliocereus	21
Aporophyllum	22
Borzicactus	35
Heliocereus	138
Pfeiffera	244
Selenicereus	274-275

Elongated stems



Aporocactus	20-21
Erythrorhipsalis	106

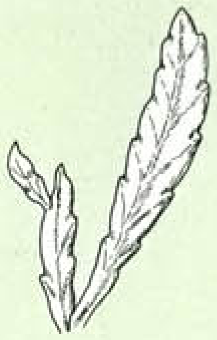
Leaf-like pendent stems



Disocactus	64-65
Lymanbensonia	151
Nopalxochia	204

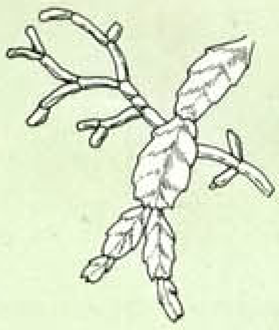
LEAF-LIKE

Broadly leaf-like



Cryptocereus	59
Disocactus	64
× Epicactus	87-102
Epiphyllum	103
Nopalxochia	204
Wittiocactus	309

Segmented

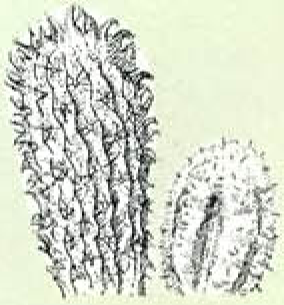


Lepismium	142-143, 144
Rhipsalis	262-264
Schlumbergera	265

HOW TO LOCATE YOUR PLANT

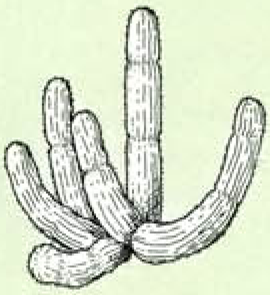
COLUMNAR

Woolly/hairy



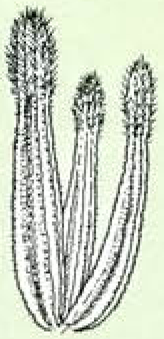
Cephalocereus	38-39
Cipocereus	42-43
Cleistocactus	43-45
Espostoa	110-111
Neobinghamia	197
Oreocereus	226
Pilosocereus	244-249

Erect or semi-prostrate



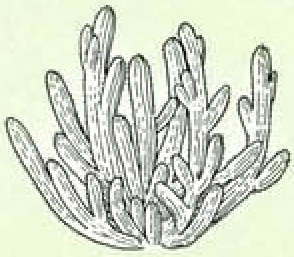
Arrojadoa	26-27
Arthrocereus	28
Borzicactus	34
Cereus	39-41
Coleocephalocereus	45-47
Corryocactus	49-50
Echinocereus	76, 78-79
Pachygerocereus	228

With prominent cephalium



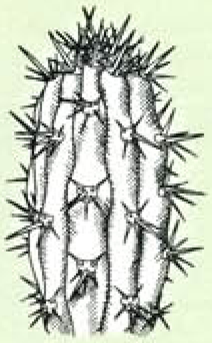
Backebergia	33
Buiningia	37
Lophocereus	149-150
Micranthocereus	191-192
Mitrocereus	194
Stephanocereus	280
Vatricania	305

Bushy



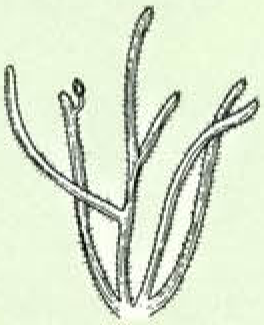
Armatocereus	25-26
Austrocephalocereus	32
Bergerocactus	33
Calymmanthium	37
Leocereus	141
Mammillaria	153
Neoraimondia	203
Opuntia	219-220, 221-225
Pereskia	241-244
Pereskiopsis	244
Quiabentia	253
Stenocereus	278-279
Subpilocereus	282
Tacinga	285
Thrixanthocereus	294
Wilcoxia	308

Spiny



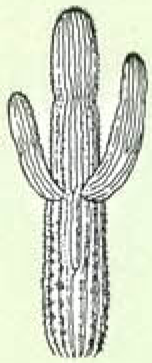
Acanthocereus	19
Borzicactus	34
×Myrtgerocactus	195
Trichocereus	294-298

Semi-climbing columnar



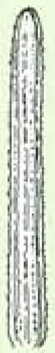
Mirabella	193
Monvillea	194-195

Tree-like, robust



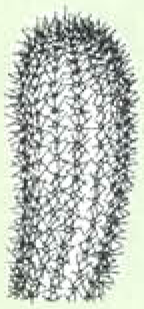
Browningia	35
Carnegiea	38
Facheiroa	112-113
Neobuxbaumia	198
Neodawsonia	198-199
Pachycereus	227-228
Rauhocereus	254
Stetsonia	280

Tree-like, slender



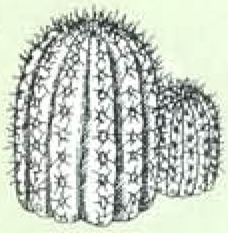
Cereus	39-41
Dendrocereus	59
Escontria	110
Eulychnia	111
Jasminocereus	141
Lasiocereus	141
×Myrtillenocereus	195
Myrtillocactus	196
Polaskia	250
Pseudopilosocereus	250
Pterocereus	252
Samaipaticereus	265
Siccobaccatus	276
Stenocereus	277
×Stenomyrtillus	280
Weberbauerocereus	305

Dense-spiny stems



Borzicactus	34
Haageocereus	134-135, 136
Hildewintera	139

Particularly short columnar

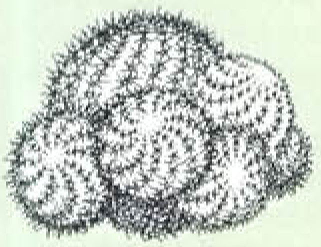


Ancistrocactus	20
Astrophytum	30-31
Austrocactus	32
Borzicactus	34
Brachycereus	35
Echinocereus	70-72, 74, 76-78
Echinomastus	83
Escobaria	107-108
Lobivia	147
Mammillaria	153
Neolloydia	200
Setiechinopsis	276

HOW TO LOCATE YOUR PLANT

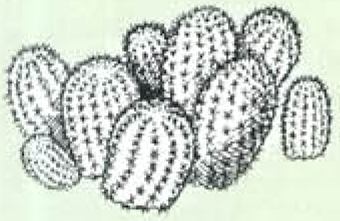
CLUSTERING

Cushion-like clusters



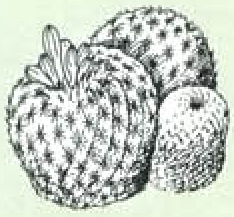
Coryphantha	53-55, 57
Mammillaria	152-155, 157, 159, 162, 164-174, 176-186
Rebutia	254-259
Sulcorebutia	283

Group forming



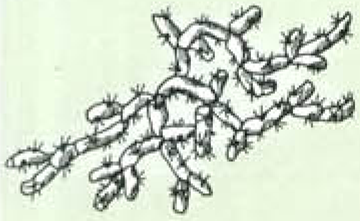
Echinocereus	68-70, 72-73, 76-77, 78-79
Epithelantha	104
Escobaria	107, 108-109
Ferocactus	120
Gymnocalycium	126, 130
Pygmaeocereus	253

Sparse clusters



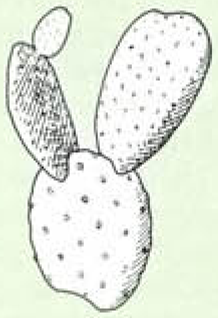
Chamaelobivia	42
Matucana	186
Sulcorebutia	282-284

Sprawling, spreading clusters



Maihuenia	151
Maihueniopsis	152
Mila	193
Tephrocactus	285-288

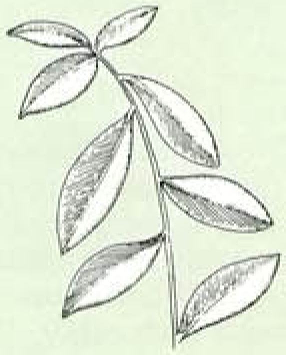
PADDED/JOINTED



Opuntia	207-225
Pterocactus	251
Tephrocactus	287

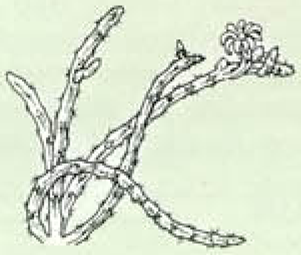
SPRAWLING/TRAILING

Leafy stems



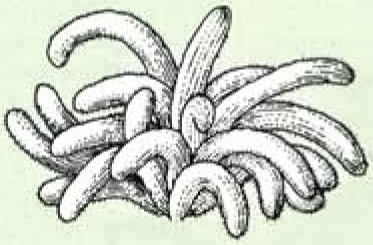
Pereskia	240

Very thin stems



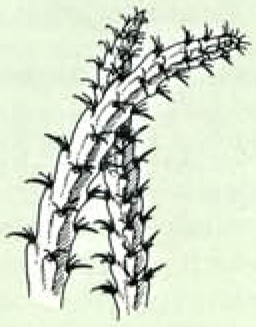
Peniocereus	240
Weberocereus	305-306
Wilcoxia	308-309
Wilmattea	309

Firm, sprawling stems



Borzicactus	34
Echinocereus	70, 74-75
Haageocereus	135
Loxanthocereus	151
Pseudoacanthocereus	250
Stenocereus	277

Slender, sprawling, strong-spined



Eriocereus	104-105
Harrisia	136
Heliocereus	138
Nyctocereus	206
Trichocereus	296, 298

HOW TO USE THIS BOOK

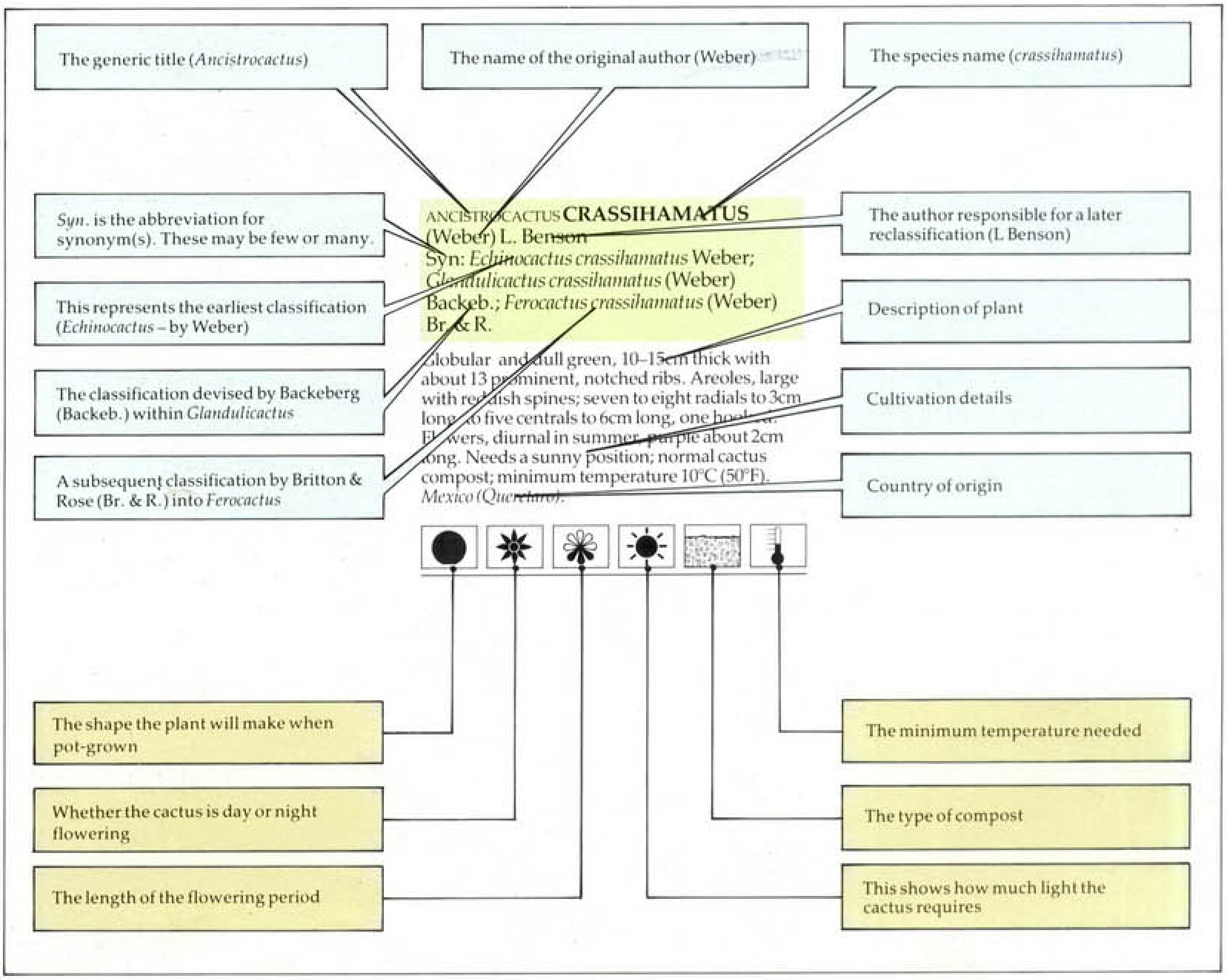
The information in the directory section of this book is arranged to supply the reader with as much information as possible about each species. Opposite an explanation is given for the symbols which appear at the base of each plant entry. On this page plant classification is explained.

Understanding nomenclature

The huge diversity of the plant world is such that a system of dividing plants into recognizable groups is necessary in order to make some sense of it. The system of nomenclature and taxonomy is the means by which specialists, collectors, and amateurs in different countries can understand each other, the official names and classifications of plants being accepted worldwide.

Plant classification works on the principle of the Russian doll: the broadest classification is the family, which consists of related genera (the relationship being based on flower structure). Family names end in the suffix *'aceae'* – hence cacti belong to the *Cactaceae*. With many plant families, sub-divisions occur, and this certainly applies with the *Cactaceae*, with systematic categories of sub-family, tribe, sub-tribe, and thence to genus, species, sub-species, varieties, cultivars, and forms. Where a sub-species occurs, the abbreviation *ssp.* is placed before the sub-species name. Where a variety is distinguished within a species, its name is preceded by the abbreviation *var.* A form is denoted by the abbreviation *fma.* Cultivars are indicated *cv.*; natural hybrids are noted *Hybrid*.

In general, the nomenclature system is fairly straightforward and understandable. In many instances the name given to a plant remains consistent for an indefinite period. However, some species have, through the years, been investigated by various taxonomists and botanists, and this has led far too frequently to plants being reclassified under different genera. All nomenclature bears the name (or the recognized abbreviation of the name) of the author (the person naming the plant). Where a plant has been reclassified by later authors, the name of the original author appears in brackets, followed by the name of the later author or authors. Thus a single species can be known under several names, called synonyms. The example below will help to clarify the system.



ANCISTROCACTUS **CRASSIHAMATUS**
(Weber) L. Benson
Syn: *Echinocactus crassihamatus* Weber; *Glandulicactus crassihamatus* (Weber) Backeb.; *Ferocactus crassihamatus* (Weber) Br. & R.

Globular and dull green, 10–15cm thick with about 13 prominent, notched ribs. Areoles, large with reddish spines; seven to eight radials to 3cm long; to five centrals to 6cm long, one hooked. Flowers, diurnal in summer, purple about 2cm long. Needs a sunny position; normal cactus compost; minimum temperature 10°C (50°F). *Mexico (Queretaro).*

The generic title (*Ancistrocactus*)
The name of the original author (Weber)
The species name (*crassihamatus*)
Syn. is the abbreviation for synonym(s). These may be few or many.
The author responsible for a later reclassification (L Benson)
This represents the earliest classification (*Echinocactus* – by Weber)
Description of plant
The classification devised by Backeberg (Backeb.) within *Glandulicactus*
Cultivation details
A subsequent classification by Britton & Rose (Br. & R.) into *Ferocactus*
Country of origin
The shape the plant will make when pot-grown
The minimum temperature needed
Whether the cactus is day or night flowering
The type of compost
The length of the flowering period
This shows how much light the cactus requires

HOW TO USE THIS BOOK

SHAPE

This symbol represents the basic shape the cactus will make when grown in a pot. For the variations within these basic shape categories, see pages 8–11.

- Columnar
- Leaf-like
- Globular
- Pendent
- Padded/jointed
- Sprawling/trailing
- Clustering
- Climbing

FLOWERING TIME

Day flowering
By far the greatest number of cacti are diurnal, or day-flowering. This symbol indicates that the flowers of a particular species are only to be found fully open during daylight hours. Where flowers last for a number of days, they may remain open day and night throughout the period, or close toward evening, then re-open the next morning.

Night flowering
This symbol applies to nocturnal, or night-flowering cacti. These tend to be mainly the columnar plants, particularly those from South American habitats. However, nocturnal flowers also occur on a number of globular plants. The flower buds are tightly closed during the hours of daylight, and commence opening in the late afternoon or early evening, or even during night hours. With the majority of species, the flowers remain open throughout the hours of darkness and begin to close again in early morning. In some cases the blooms last for one night only.

? **Information unknown**
This symbol is used when the information is unknown.

FLOWERING PERIOD

These symbols give a general indication as to when a particular plant should bloom. Sometimes nature decides slightly to vary the flowering season of a plant, but such variation will be minimal. There is also the possibility of a second flowering season occurring later in the same year, but this phenomenon is a more rare event!

- Mid-winter
- Late winter to early spring
- Mid-spring
- Late spring to early summer
- Mid-summer
- Late summer to early autumn
- Mid-autumn
- Late autumn to early winter

LIGHT

Good but indirect light
A large number of cacti appreciate brief periods of bright sunshine, but not throughout the heat of the day. Place these plants in a position where there is plenty of indirect or filtered light, but not too much shade. In a hot, sunny summer, greenhouse specimens may need protection from scorching. Greenhouse shading can be provided either by using blinds, or by coating the glass with a special substance called "summer cloud," which provides a thin coating of white that moderates the intensity of the light. On the approach of autumn this should be wiped off.

Partial shade
In the wild, many cacti, especially the smaller species, grow in the protective shade of surrounding desert bushes and scrub. Such plants appreciate semi-shade, even in northern climes, and require protection from the full glare of the midday sun. Indoors, place these plants on a window ledge that does not receive direct sunlight. In the greenhouse, use blinds or other forms of shading to filter out some of the light. Cacti planted outside will appreciate the shade provided by overhanging tree branches or a nearby wall.

Full shade
Rainforest and jungle cacti can be grown in shade. This does not mean the total exclusion of light, but these species do best in a position where the light is finely shaded at all times. Many such plants are grown "under the bench" in greenhouses; in the home, they can be stood in windows which do not get too much sunlight, or brought away from the window altogether.

Direct sunlight
Some cactus species can withstand extended periods of full sun without coming to any harm. Plants grown indoors should be placed on a bright, sunny window ledge; in a greenhouse, place them as near to the glass as possible; outside, choose a sheltered, sunny aspect.

COMPOST

Slightly acid compost
The basic mixture consists of equal parts sterilized loam, shredded peat, and coarse washed sand, or sand and perlite. To achieve the required acidity, mix a small quantity of thoroughly decomposed leaf mold or cow manure in granulated form with the peat: about one quarter in bulk of the peat content is sufficient. Suitable for forest cacti such as *Disocactus, Epiphyllums, Rhipsalis, Schlumbergera, etc.*

Proprietary cactus compost
This is the type of compost invariably offered commercially for cactus and succulent plant culture. Normally composed of equal parts sterilized loam, shredded sphagnum peat, and sharp gritty sand, to which is added a slow-release base fertilizer. If a soil-less compost is considered, add one part coarse washed sand to three parts compost to increase porosity and aid drainage.

Enriched mineral compost
This consists of normal cactus compost with an extra sand or grit content. The suggested formula is one part sterilized loam, one part shredded peat, and two parts sharp gritty sand or fine gravel, enriched with thoroughly decomposed leaf mold in granulated form at the rate of three parts prepared compost to one part leaf mold. Suitable for cacti from rocky, sloping habitats, where decomposed leaves from the surrounding scrub and low trees, plus minerals washed from the rocks, provide the necessary nutrients.

Calcareous compost
This consists of normal cactus compost with the addition of limestone gravel or chippings (never powdered lime or chalk). The quantity of limestone added depends on the species concerned, but in general one part limestone gravel to six parts compost is sufficient. Suitable for the spiny or woolly type of desert cacti. The addition of limestone assists in strong spine formation.

TEMPERATURE

The temperatures stated pertain to night-time conditions, and are recommended as a *minimum* for the well-being of the plant.

- 45°F
- 59–60°F
- 50°F
- 65°F
- 55°F
- 66°F and over

Some superb examples of cacti growing behind glass.

This book is carefully planned to provide ease of use, even by a complete cactus novice. The core of the work is the illustrated reference directory of this exotic family, the *Cactaceae*. Here you will find over 1,200 examples of individual cactus species, suitably arranged in the standard generic groupings, and these species, together with any varieties which occur, can be identified alphabetically according to their botanical nomenclature. This means that, even if you know nothing about a particular plant other than its name, you will be able to locate it easily and quickly.

Each entry is illustrated with a color photograph of the plant, sometimes depicted in the wild or, more frequently, in domestic conditions, and invariably showing the flower as well as the plant form. Each entry is accompanied by a visual ready-reference chart, in which specially devised symbols act as an instant and useful checklist. These symbols indicate the preferred type of soil, the degree of sun or shade the plant requires, the optimum temperatures for successful domestic cultivation, whether the plant is day or night flowering, the season of the year when flowering takes place, and, finally, the shape the plant will develop when grown in cultivation, this frequently differing from its shape in the wild.

The text which accompanies each entry in the directory section gives cultivation advice specific to the plant featured. However, there are a number of general guidelines to cultivation that will assist you along the way, and ensure success when raising and caring for individual species and varieties, as well as mixed plantings. What follows applies to all cacti which are being grown as typical houseplants – that is, in normal domestic conditions rather than in specialist greenhouses or conservatories.

Planting in containers

Clay and plastic containers are equally suitable for cacti, although clay pots dry out more quickly. The most important thing is that the pot should be large enough comfortably to accommodate the plant or plants, and deep enough to allow for drainage and for the roots to spread naturally. If the container is too small, root growth is restricted, resulting in weak growth and possibly the eventual loss of the plant. If the container is too large, there is a danger of either under-watering or over-watering, with adverse effects on the plant. Also, because the roots of the plant do not fill the pot, the unused soil may become sour. Lastly, a small cactus in an over-large container does not look aesthetically pleasing!

The best time to plant or re-pot is in spring, during the early part of the growing season, before any buds have developed. Good drainage is of paramount importance, so start by placing a layer of broken crocks in the base of the container to a depth of ½–¾in or more, depending on the size of the container. This prevents the drainage holes from becoming blocked with compost. A few pieces of charcoal can be mixed with the crocks to keep the compost sweet.

Place a thin covering of compost over the crocks, then hold the plant in position with the roots hanging just above the compost. Protect hands from very prickly specimens by holding the plant wrapped in newspaper. Fill in around the plant with slightly moist compost, repeatedly tapping the container to encourage the compost to settle around the roots without any air pockets. Finally, firm the surface with thumb and fingers. The soil should not reach higher than a half inch or so below the rim of the pot, to allow for watering. After planting, no water should be given at all for several days, so that any broken roots can heal over, preventing the risk of root rot. Leave the plant in a bright, airy position, but not in direct sunlight.

Mixed planting

If mixed plantings of cacti are desired, be careful to select species which have similar requirements in terms of soil type, temperature, light, and general cultivation. This is particularly important when planting bowl gardens, where plants are closely confined.

Never plant any species of cactus in a bottle garden. It may seem an attractive idea initially, but cacti simply would not survive, as the micro-climate in a bottle garden is far too extreme.

Compost

As the directory section of this book indicates, different species of cactus prefer different types of soil, but one essential requirement common to all is that the soil must be of an open texture to permit free drainage and circulation of air; a waterlogged soil is certain to spell disaster. If a soil-less compost is used, it is a good idea to mix in a quantity of washed, gritty sand, to the ratio of one part sand to two parts compost.

Plants from certain habitats may have additional soil requirements. Some desert species, such as *Mammillaria plumosa*, will benefit from the addition of limestone chippings to the planting mixture since, in nature, many such plants flourish on calcareous rocky slopes.

Forest cacti, such as *Epiphyllums*, require a richer, more acid soil.

Watering and feeding

When plants are well established and are firmly set in the compost, watering can commence, but with extreme care. Success in growing cacti is dependent upon correct watering more than any other factor. Overwatering can lead to black rot and should be avoided at all costs. If in doubt – don't water! Bear in mind that while acknowledging that cacti are naturally constructed to withstand periods of drought in the wild, most cacti grown in cultivation will benefit from regular watering during the growing period. Lack of water at this time may result in the rootstock becoming dehydrated, hampering development of the plants. During the dormant period, however, water should be withheld – either partially or totally, depending on the species – and the plant should be kept cool.

In the wild, cacti are subject to seasonal rainstorms, followed by periods of drought. When watering, it makes sense to follow this natural pattern. Soak the compost well, then wait until it has dried out before watering again. The best time to water is in the early morning, or late evening – never in the heat of the day, as this can cause scorching. In hot, dry weather, cacti will benefit from a gentle spraying with water in the evening, which simulates the dew to which they are accustomed in their natural habitat.

Follow this routine throughout the growing season, until mid- to late autumn, then gradually reduce the amount and frequency of watering as winter approaches. The majority of desert species can survive without water during the dormant period (although plants kept in a warm, centrally heated room should be watered occasionally, just enough to moisten the soil). Jungle and rainforest plants should be kept slightly moist, so that the rootstock does not become dehydrated.

In early spring, watering can be resumed. Start with only a small amount, as the plants are incapable of absorbing much water at this stage. Gradually increase the amount and frequency of watering as summer approaches.

Proper feeding is also important. Without it growth will become retarded and, if the flowers develop at all, they will be of poor quality. Feeding is best combined with watering, the fertilizer being applied in diluted form every three to five weeks during the growing season. Choose what is termed a comprehensive fertilizer – that is, one containing the essential trace elements of iron, magnesium, boron, copper, cobalt, manganese, and molybdenum, together with the standard nitrogen, potassium, and potash. Fertilizers specially prepared for cactus growing are available from garden centers and specialist nurseries.

ABOVE The Huntington Botanic Garden in California.

LEFT Part of the collection assembled by the co-author at his Sussex home.

Light

Different species of cacti require different amounts of light, depending on their original habitat. Desert species require the brightest and sunniest positions possible, otherwise they become etiolated and misshapen, the spines become weak, and they are unlikely to flower successfully. Jungle and rainforest cacti, on the other hand, dislike direct sunlight. Regardless of their individual requirements, however, all cacti need a reasonable amount of light, which is essential for photosynthesis to take place. For further information on the light requirements of different species, see page 13.

Temperature

One of the all-important factors in the cultivation of cacti is temperature, and it is well to remember that there may be widely variable demands, depending on the season and on the origins of the individual plants in your collection. During the summer months, normal room temperature is usually adequate for plants used for home decor. For plants kept in a greenhouse, good ventilation is essential: a close, damp atmosphere encourages the growth of harmful fungi. With certain species, some form of shading will be necessary.

Any major problems are likely to develop during the winter months. When discussing temperatures, we are referring to measurements taken in the shade: only in this way can the minimum required temperature be ensured.

With the majority of desert cacti a minimum temperature of 46–50°F (8–10°C) throughout the dormant period of winter will suffice. Plants which originate from extremely hot climates, such as many of the *Melocactus* and *Discocactus*, require a minimum temperature of around 59°F (15°C). Other types of cacti are normally happy so long as the winter temperature does not fall below about 40°F (5°C).

With desert plants in general, a day-time maximum temperature in springtime of 70°–80°F (22–27°C) will help to promote growth and flowering.

A different approach is required when it comes to jungle or rainforest cacti. During the time when bud formation is in progress, and when flowering commences, temperatures must never be allowed to fall below 50°F (10°C): ideally, they should be a few degrees higher.

Since rainforest and jungle plants are accustomed to humid conditions in their natural habitats, it will prove most beneficial if something similar can be arranged in cultivation. This can be provided by fairly regular overhead misting of the plants, using tepid, preferably rain water: this will help to emulate natural conditions by increasing the humidity in the air.

Once flowering is over – usually by late spring – rainforest species will happily accept much the same temperature range as their desert counterparts, with but slight variation in watering procedures.

Pests and diseases

All plants are vulnerable to attack by insect pests, and cacti are no exception. The most common pests associated with cacti are mealy bugs, root mealy bugs, red spider mites, scale insects, sciarid flies, and their larvae, aphids. Infestation can be prevented by providing good growing conditions: for example, red spider mites may attack if the atmosphere is excessively dry and hot, and regular spraying with water is recommended as a deterrent. Another preventative measure is to water into the soil some diluted systemic insecticide, following the manufacturer's instructions, about three or four times during the growing season (though never do this when the rootstock is dry). If the pests are already established, spray the actual plant as well.

Over-watering and insufficient drainage can lead to a bacterial infection known as black rot, in which the base of the plant literally blackens. Such a condition must be treated promptly or it will prove fatal. Cut away the infected area with a very sharp knife and treat the wound with sulfur powder. Be thorough, otherwise the trouble may re-occur.

Reddish spots on your plants are not a sign of disease, but are the result of overhead watering in the full heat of the day, which causes scorching.

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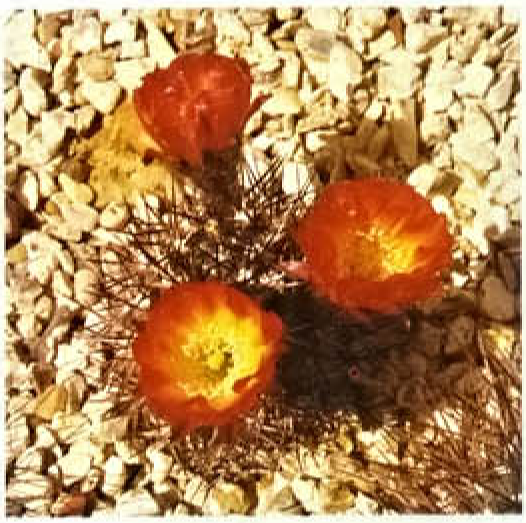

ACANTHOCALYCIUM **AURANTIACUM** Rausch

A globular species to about 2in high, 3½in in diameter, dark grayish-green in color with 10–16 ribs. Spines are dark, almost blackish-brown, with five to seven radials to 1½in long, rarely one central slightly longer, but more often absent. Flowers are borne on lateral areoles, to about 2in long and across, diurnal, in summer. The inner petals are yellowish orange in the lower part, reddish toward the top; outer petals are usually totally red. A bright, airy position is essential; normal cactus compost and winter temperature 45°F. *Argentina (Catamarca).*

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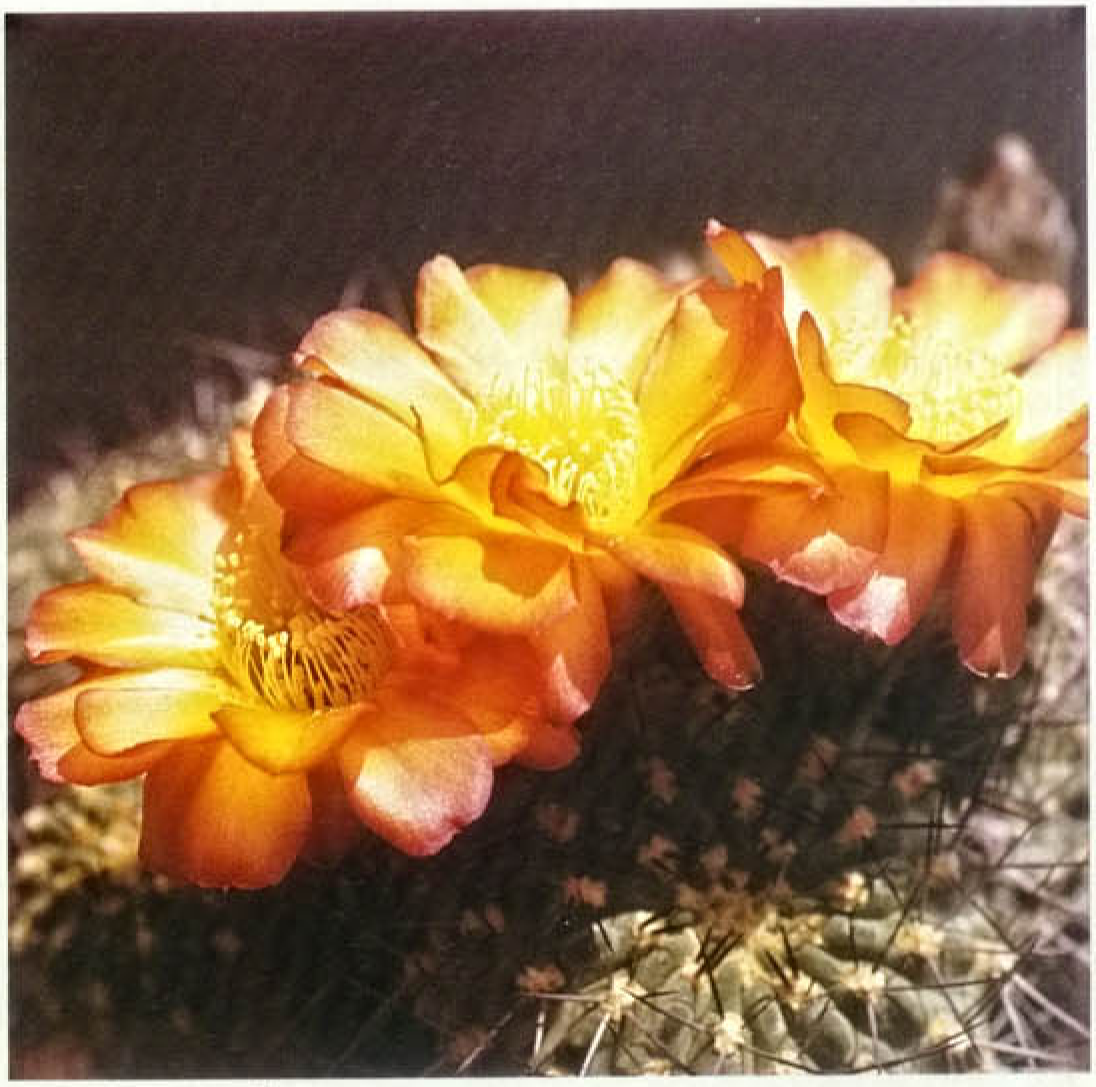

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ACANTHOCALYCIUM **GLAUCUM** Ritter

Globular bluish-green plants about 6in high, 3in in diameter with eight to fourteen ribs over ½in high. Spines are more or less erect; usually there are five to ten radials, rarely one to two centrals. Flowers are golden yellow, with reddish-tipped petals about 2½in long and across. Day flowering in mid-summer, they need a bright location and normal cactus compost; minimum temperature 50°F. *Argentina (Catamarca).*

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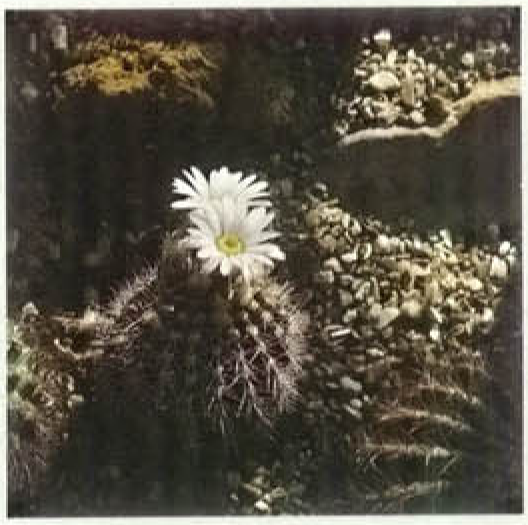

ACANTHOCALYCIUM **PEITSCHERIANUM** Backeb.

A grayish-green, globular plant to about 3¼in high, 4in wide, having about 17 prominent ribs. Spines varying from pale to dark brown, with seven to nine radials and usually one central, all to ¾in in length. Flowers are diurnal, whitish or pale pinkish-white, 2½in long, appearing in late summer. Needs bright light; normal cactus compost; minimum temperature 50°F. *Argentina (Cordoba).*

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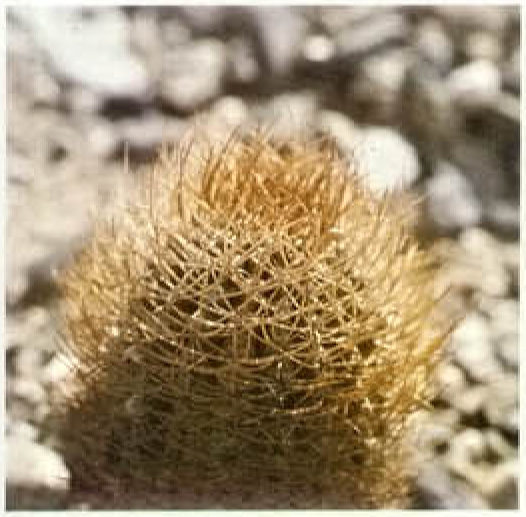
ACANTHOCALYCIUM



ACANTHOCALYCIUM **THIONANTHUM** (Speg.) Backeb.

A short, cylindrical, dark green species 4¾in or more high, 2½–4in thick with about 14 ribs. The pale brownish spines are curved upward, about ½in long; about 10 radials, one to four centrals. Day flowering in mid-summer, the flowers are citron yellow, 1¾in long. Requires a bright, airy position; normal cactus compost; minimum temperature 50°F. *Argentina (Salta).*

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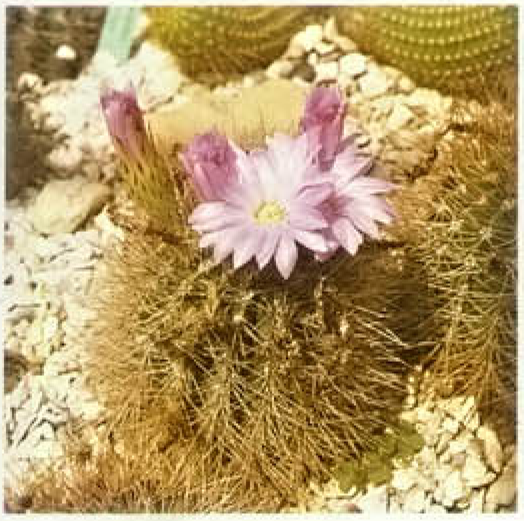

ACANTHOCALYCIUM **VIOLACEUM** (Werd.) Backeb.
Syn: *Echinopsis violacea* Werd.

The plants are solitary, more or less globular to 8in high, 5in diameter, and dull green, having about 15 ribs with areoles bearing 12 or more slender yellowish-brown radial spines and three to four slightly longer centrals. Flowering in summer, from near or at the crown of the plant, the blooms are diurnal, pale violet to 3in long, 2½in across. A bright, airy position is required, with normal cactus compost and minimum winter temperature 45°F. *Argentina (Cordoba).*

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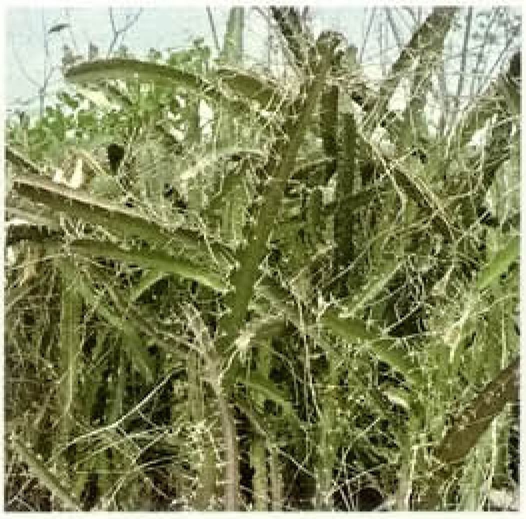
ACANTHOCEREUS



ACANTHOCEREUS **HORRIDUS** Br. & R.
Syn: *Acanthocereus horribilis* Berger

A semi-erect, many-branched species. The dark green stems, which are about 4in thick, have three broad, wing-like ribs with crenate margins. Areoles, set 1–2½in apart and bearing up to six radial spines to ½in long and one to two thick centrals about 2in in length, are brownish, becoming gray. Night flowering in summer, the flowers are white with greenish-brown outer segments, about 8in long. Requires a bright position; normal cactus compost; minimum temperature 55°F. *Guatemala.*

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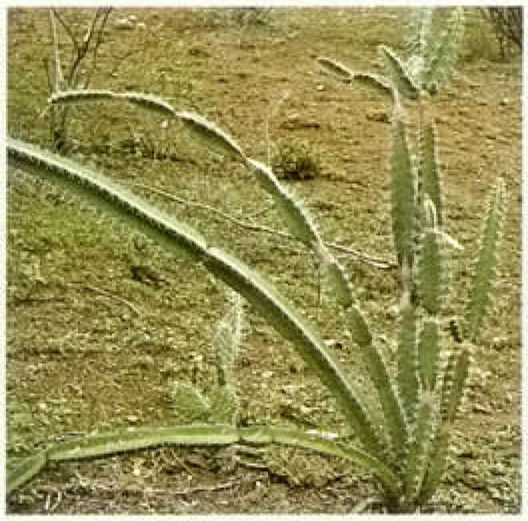

ACANTHOCEREUS **sp. nova.** (aff. *A. colombianus*)

This would appear to resemble *A. colombianus* Br. & R., which is the only other recorded species known from that country. It was discovered by Professor W. Rauh in Magdalena, which is in the north of the country. The erect plant has three-angled stems, about 3½in thick, with grayish or brownish spines of unequal length. Flowers are unknown. A very bright position is necessary, with normal cactus soil; minimum temperature 55°F. *Colombia.*

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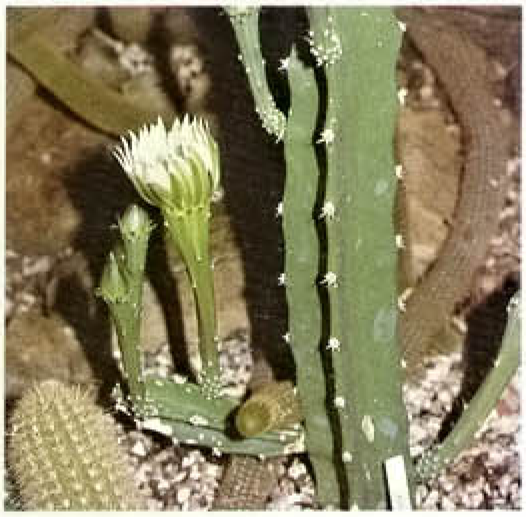
ACANTHORHIPSALIS



ACANTHOCEREUS **PENTAGONUS** (L.) Br. & R.
Syn: *Acanthocereus tetragonus* (L.) Humlk.

A tall, columnar species up to 15ft high. The branches are dark green, 2½–3in in diameter with three to five angular ribs, deeply crenate. Areoles are grayish, ¾–1in apart, bearing brownish spines, six to eight radials about 1in long, one or more centrals 1½in long. Flowers, white with greenish outer segments, about 8in long, are nocturnal in late summer. Requires bright light; normal cactus compost; minimum temperature 55°F. *USA (Florida), Mexico, Central and South America, West Indies.*

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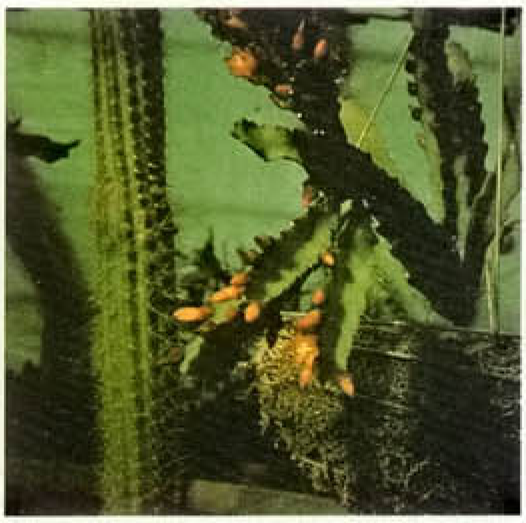

ACANTHORHIPSALIS **MONOCANTHA** (Griseb.) Br. & R.
Syn: *Rhipsalis monocantha* Griseb.; *Lepismium monocanthum* (Griseb.) Barthlott

A branching epiphyte with spiny three-angled or flat and leaf-like stems up to 1½ft long, having crenate margins and yellowish woolly areoles. It differs from species of *Rhipsalis* in having one, rarely two, ½in long yellowish spines to each areole, persisting. Orange flowers appear in spring and summer. These are diurnal, about ⅔in long and ½in across. Filtered light preferable; normal cactus compost; minimum temperature 55°F. *Argentina.*

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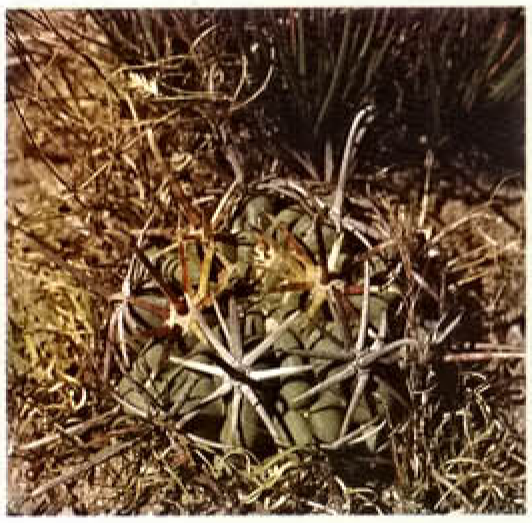
ANCISTROCACTUS



ANCISTROCACTUS **CRASSIHAMATUS** (Weber) L. Benson
Syn: *Echinocactus crassihamatus* Weber; *Glandulicactus crassihamatus* (Weber) Backeb.; *Ferocactus crassihamatus* (Weber) Br. & R.

Globular and dull green, 4–6in thick with about 13 prominent, notched ribs. Areoles, large with reddish spines; seven to eight radials to 1in long, to five centrals to 2½in long, one hooked. Flowers, diurnal in summer, purple, about ¾in long. Needs a sunny position; normal cactus compost; minimum temperature 50°F. *Mexico (Queretaro).*

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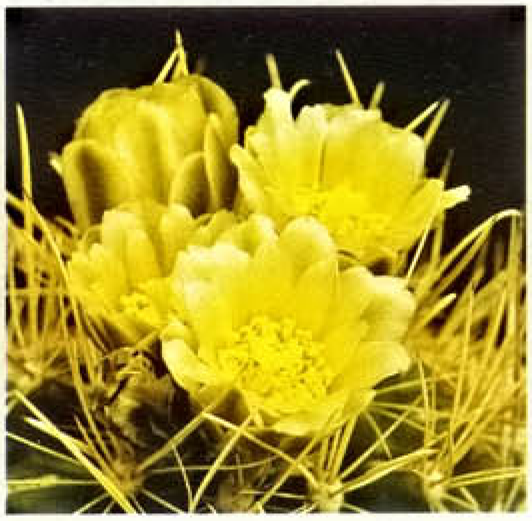

ANCISTROCACTUS **SCHEERII** (Salm-Dyck) Br. & R.
Syn: *Echinocactus scheeri* Salm-Dyck

Bright green stems are more or less globular, generally solitary, up to about 4¾in tall, 3in across. Ribs number about 13; these are divided into conical tubercles set with areoles at the tips. Radial spines are whitish or straw-colored, 15–18 to ½in long; three to four centrals ¾–2in long are yellow with a brownish base, the lowest hooked. Flowers are diurnal, greenish yellow, to 1in long in summer. Requires bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Chihuahua).*

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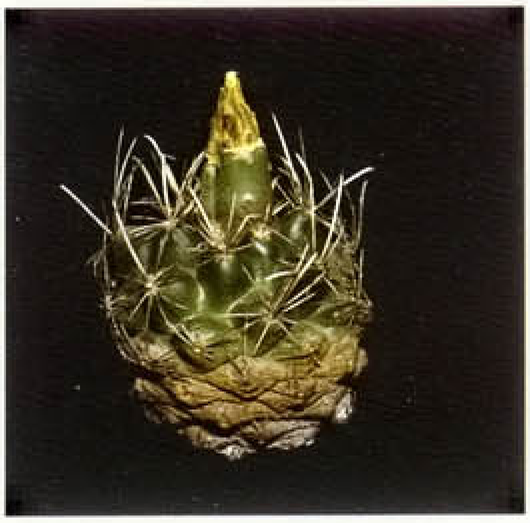

ANCISTROCACTUS **TOBUSCHII** Marsh

Stems are globular, about 3in long and in diameter, dark, glossy green, solitary and divided into a series of spirally arranged prominent tubercles, each tipped with a conspicuous areole. There are about seven grayish-white radial spines ½–⅔in long, spreading, and three centrals to 1in in length. Flowers are greenish yellow to 1½in long in summer, diurnal. A comparatively uncommon species, it requires slight shade; normal cactus compost; minimum temperature 50°F. *USA (Texas).*

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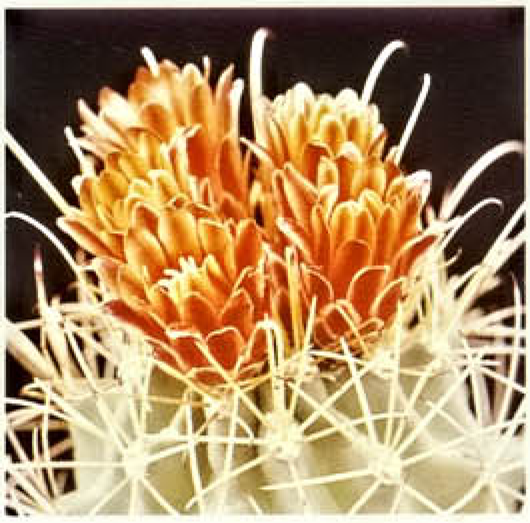

ANCISTROCACTUS **UNCINATUS** (Gal.) L. Benson
Syn: *Echinocactus uncinatus* Gal.; *Hamatocactus uncinatus* (Gal.) Buxb.; *Glandulicactus uncinatus* (Gal.) Backeb.

Short, columnar, bluish-green, 8in high, 3in thick, 13 straight ribs. Areoles surrounded by yellowish hairs; spines are reddish. The brownish flowers are diurnal, appearing in mid-summer, to 1in long. Needs bright light; normal cactus compost with added grit; minimum temperature 50°F. *USA (Texas), Mexico (Northern to Central).*

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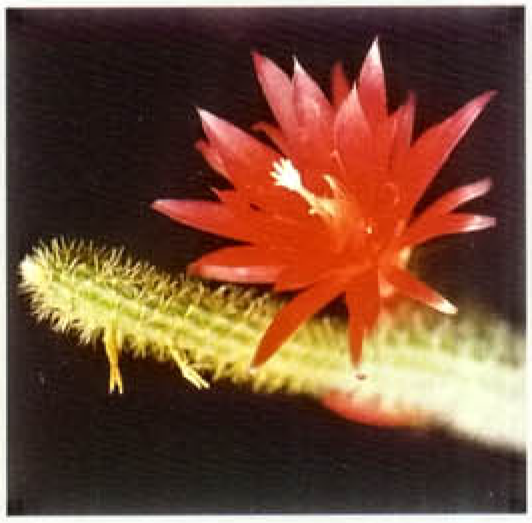
APOROCACTUS



APOROCACTUS **CONZATTII** (Berger) Br. & R.
Syn: *Cereus conzattii* Berger

Creeping or pendant plants, with stems to 3ft long, ½–1in thick with eight to ten low tuberculate ribs, and fairly close-set areoles with many pale-brown spines. Flowers diurnal, appearing in summer, are bright red, 3½in long. The petals are in two series, the inner slightly incurving, the outer rather reflexed; the style and stamens are white. Suitable for hanging baskets. Requires partial shade; normal cactus compost; minimum temperature 55°F. *Mexico (Oaxaca).*

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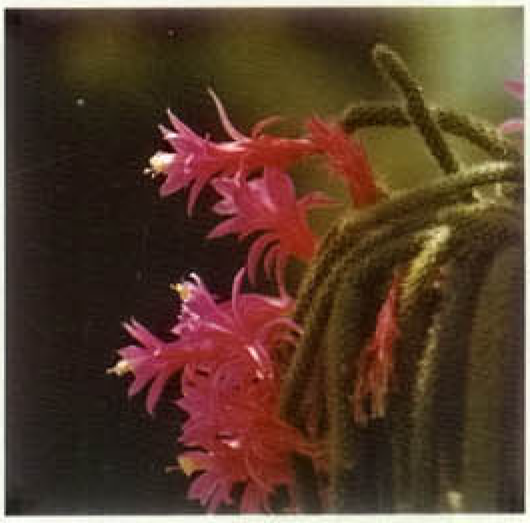

APOROCACTUS **FLAGELLIFORMIS** (L.) Lemaire
Syn: *Cactus flagelliformis* L. (1753)

Grayish-green stems are creeping or pendant up to 6ft in length, ½–¾in thick, with 10–14 low-set ribs, and close-set areoles each with 15 or more yellow spines. Day flowering, in early summer, the red blooms are zygomorphic, 3in long, and last for several days. Outer petals are narrow, reflexed; inner petals are wider and partially spreading. Ideal for hanging baskets. Needs a sunny position; rich acid compost; minimum temperature 50°F. *Mexico, Central America.*

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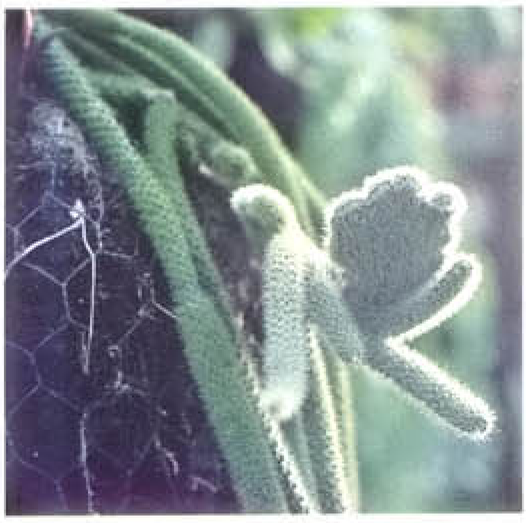
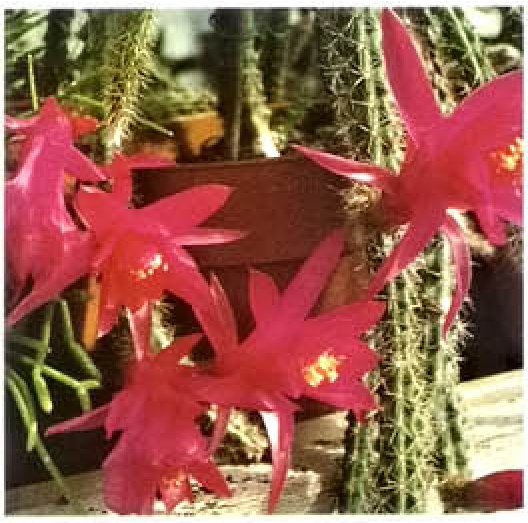


APOROCACTUS **FLAGELLIFORMIS** (Mill.) Lem. **'Cristata'**

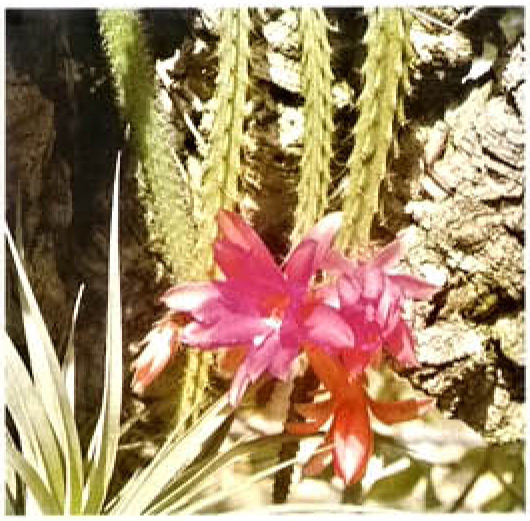
On rare occasions, a monstrose growth develops to form an unusual hand-shaped crest from which normal growth is very likely to appear. To maintain the cristated form it is best to graft on to robust stock. *Mexico.*



APOROCACTUS **MARTIANUS** (Zuccc.) Br. & R.

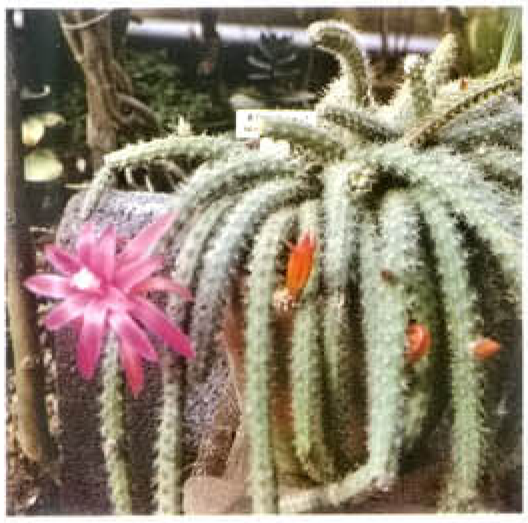
Syn: *Cereus martianus* Zucc.; *Eriocereus martianus* Ricco.

A creeping, pendant plant with stems over 3ft long, to ¾in in diameter. There are eight low ribs with six to eight radials, and two or more yellowish, rather bristle-like central spines. Flowers are red, diurnal, appearing in early summer, about 4in long, 2½in across, and are somewhat funnel-shaped. A bright location is important; requires normal cactus compost; minimum temperature 55°F. *Mexico (Oaxaca).*



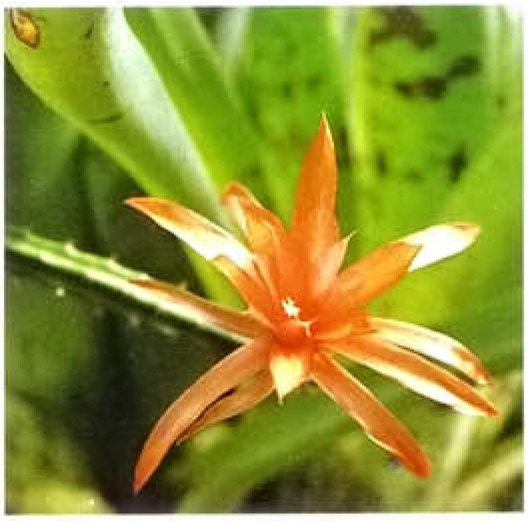
APOROCACTUS × **WILLIAMSONII** Knebel

One of the earliest recorded hybrids within the genus, the parentage is believed to be *Aporocactus flagriformis Aporocactus martianus*. It flowers in spring; the petals are suffused violet-pink. Suitable for hanging baskets. Requires slight shade; normal cactus compost; minimum temperature 55°F.



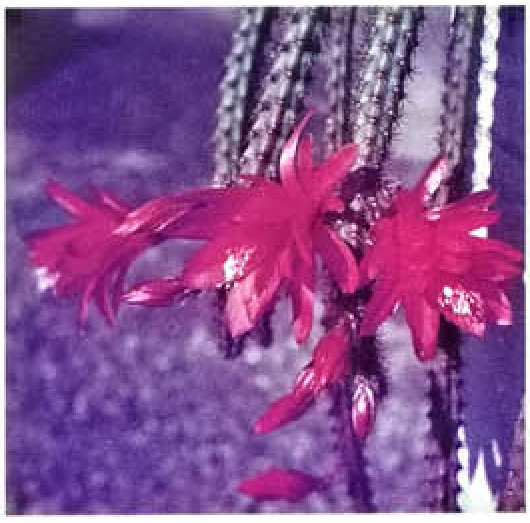
APOROCACTUS **FLAGRIFORMIS** (Zucc.) Lem.

The grayish-green stems are about ⅔in thick, to 2½ft or more long, and of pendant habit. Ribs, seven to ten with areoles set ½–⅔in apart, are yellowish. Spines consist of six to eight weak radials and four to five centrals up to ½in long. Day flowering in late spring, the flowers are slightly irregular, crimson with pinkish-edged inner petals, 3in broad, 4in long. An epiphyte, it is suitable for hanging baskets. Requires slight shade; normal cactus compost; minimum temperature 55°F. *Mexico.*



APOROCACTUS **MOENNINGHOFFII** Fischer

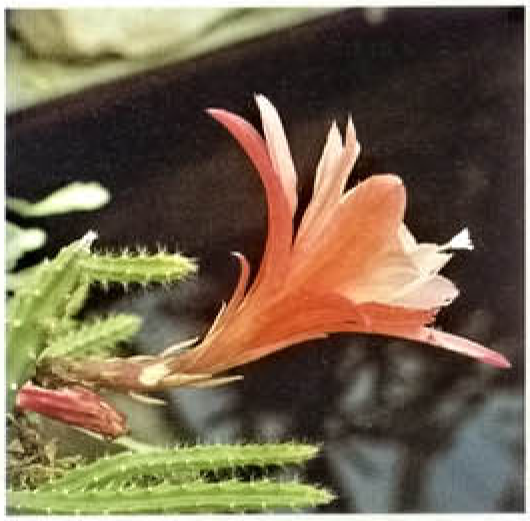
Reputedly a hybrid between *Aporocactus flagelliformis* and *Aporocactus martianus*. The stems and flowers are more similar to the latter species, but the coloration of flowers can be most variable. It is day flowering, in early spring. Needs slight shade; normal cactus compost; minimum temperature 50°F.



× APOROHELIOCEREUS **SMITHII** (Pfeiff.) Rowley

Syn: *Aporocactus mallisonii* hort.; *Cereus mallisonii* Pfeiff.; *Cereus smithii* Pfeiff.

An inter-generic hybrid of *Aporocactus flagelliformis* and *Heliocereus speciosa*. The stem is dark green, pendant, with six to eight ribs, and dark brown areoles with many radiating dark spines. Flowers are diurnal, in summer, to 3in long, 1½–2½in across, with reddish pink petals in three series. It is suitable for hanging baskets. A bright position is essential. Requires normal cactus compost; minimum temperature 50°F.



APOROPHYLLUM **CASCADE** Barber

An inter-generic hybrid reputed to be between *Aporocactus martianus* and *Nopalxochia phyllanthoides*. The pale-green, three-to-five-angled stems very much resemble those of the former species, the main stems reaching 1ft in length. The diurnal flowers appear in late spring and early summer, and are about 1½in long and in diameter. The paler inner petals and the richer deep rose outer segments are representative of both parents. Requires a bright position; normal cactus compost; minimum temperature 55°F.

APOROPHYLLUM **HELENA** Innes

An inter-generic hybrid of *Aporocactus martianus* and *Epicactus Scheherazade*, one of the more remarkable results of cross-pollinating. Stems are bright green, four to five angled, with prominent tubercles tipped with woolly areoles. The spines, fine and bristly, soon fall. Flowers occur in late spring and early summer, up to 4in diameter when fully open. The deep magenta coloring of both parents is very apparent but the petal structure is unique. Requires bright light; normal cactus compost; minimum temperature 55°F.

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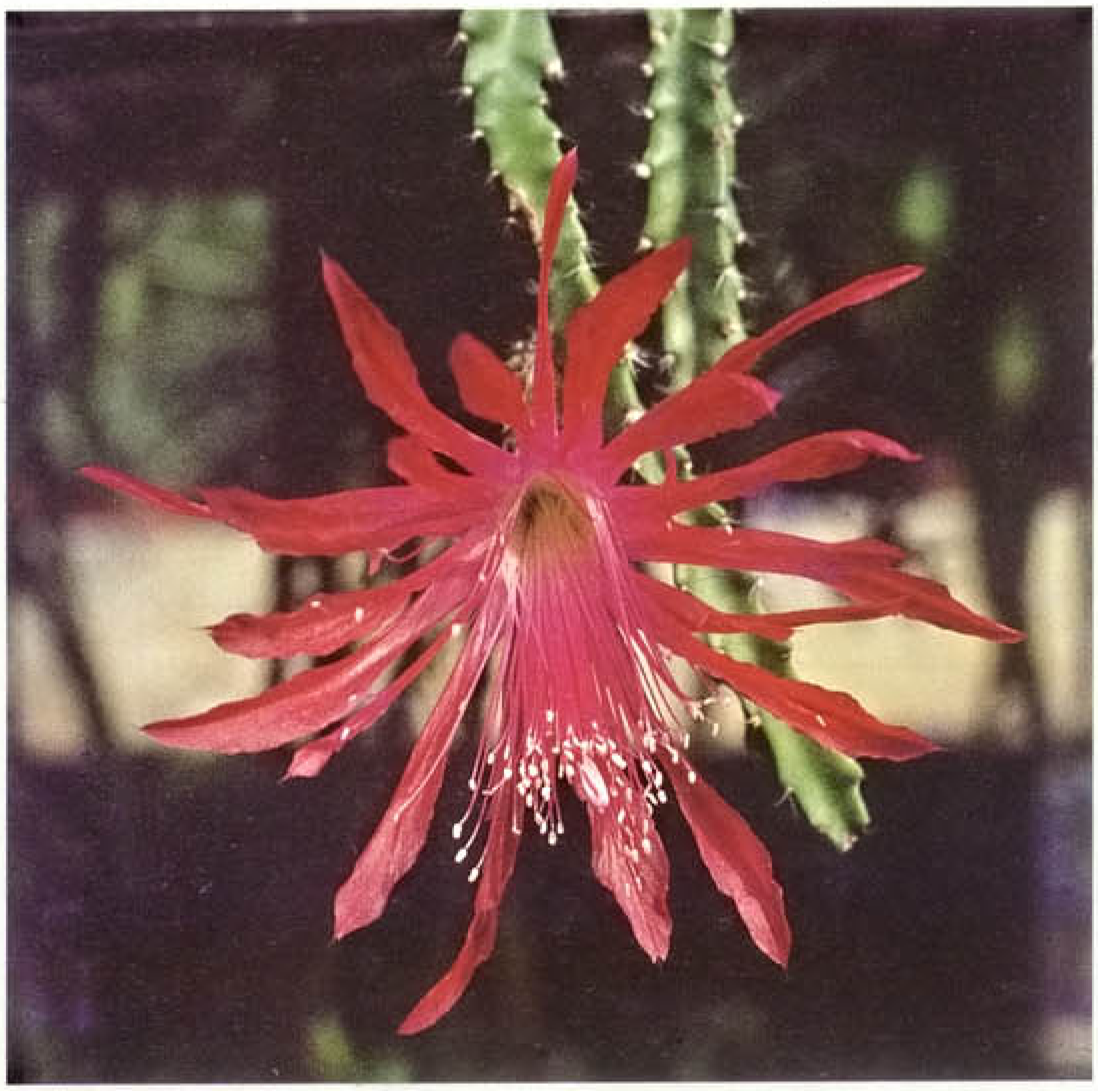
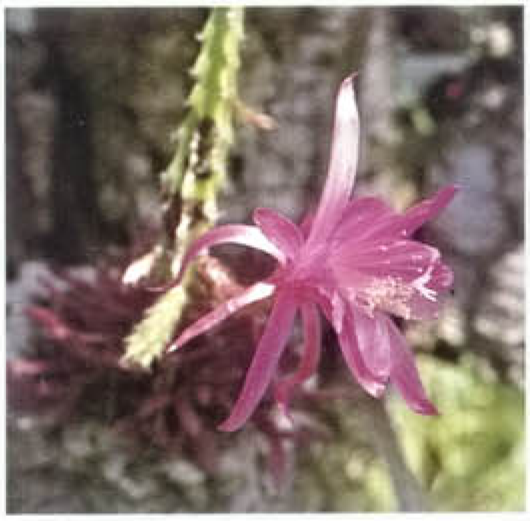
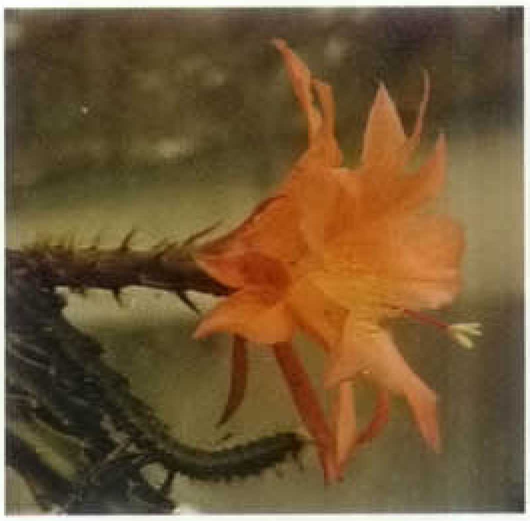




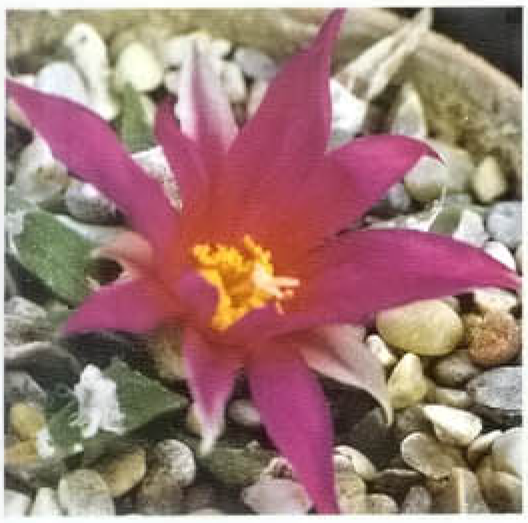
APOROPHYLLUM **RETTIGII** (?) Knebel

Parentage is uncertain. The stems are trailing or pendant, to about 2ft long and ¾in thick, and four to five angled with prominent tubercles tipped with minutely woolly areoles and a few gray bristly spines. Flowering by day in late spring and early summer, the blooms are about 2½in long, 2½–3in across when fully expanded, and somewhat funnel-shaped. Petals are lilac pink, rarely a deeper shade, and last for several days. Requires a bright position; normal cactus compost; minimum temperature 55°F.



APOROPHYLLUM **SABRA** Innes

An inter-generic hybrid of *Aporocactus martianus* and *Epicactus 'Dreamland'* which depicts the flower shape of the former and the coloring of the latter. Stems are dark green, four to five angled with wart-like prominences, and the areoles bear a few yellowish-gray spines. Flowering in late spring, it is diurnal. Flowers are 2–2½in in diameter with a well-exserted style of deep magenta. Needs a bright position but out of direct sun; normal cactus compost; minimum temperature 55°F.



ARIOCARPUS **AGAVOIDES** (Castañ.) And.
Syn: *Neogomesia agavoides* Castañ.

Plants are 1½–3¼in in diameter with only few tubercles to 1½in long, about ¼in wide, resembling the leaves of the *Agave*. Tubercles have a flat upper surface and are rounded below with pointed tips. Tips bear areoles from about ½in, rarely with one to three very short spines. Occurring in mid-summer, the flowers are diurnal, deep pink and 1–1½in across. Water in moderation in summer from below, keep dry in winter. Requires full sun; a rich open mineral compost; minimum temperature 55°F. *Mexico (Tamaulipas).*

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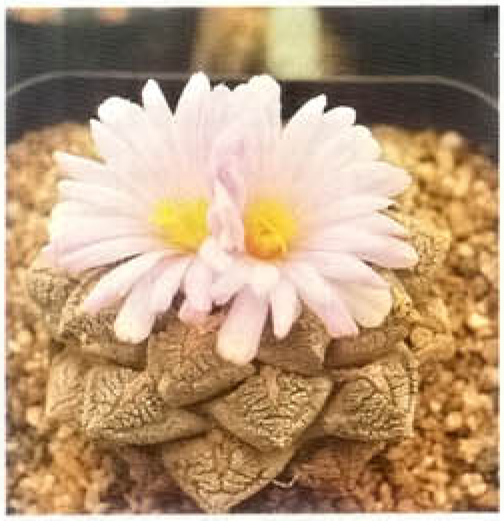

ARIOCARPUS **FISSURATUS** (Engelm.) K. Sch.
Syn: *Roseocactus fissuratus* (Engelm.) Berger

Somewhat flat and globular in shape to about 6in in diameter. The whole surface is covered with three-edged, grayish-green tubercles to 1in thick at the base, narrowing to a blunted tip, and deeply wrinkled on the uppermost surface. Day flowering in mid-summer; the flowers are pink, about 1½in in diameter. Requires full sun; an enriched mineral compost; minimum temperature 50°F. *Mexico (Coahuila), USA (Texas).*

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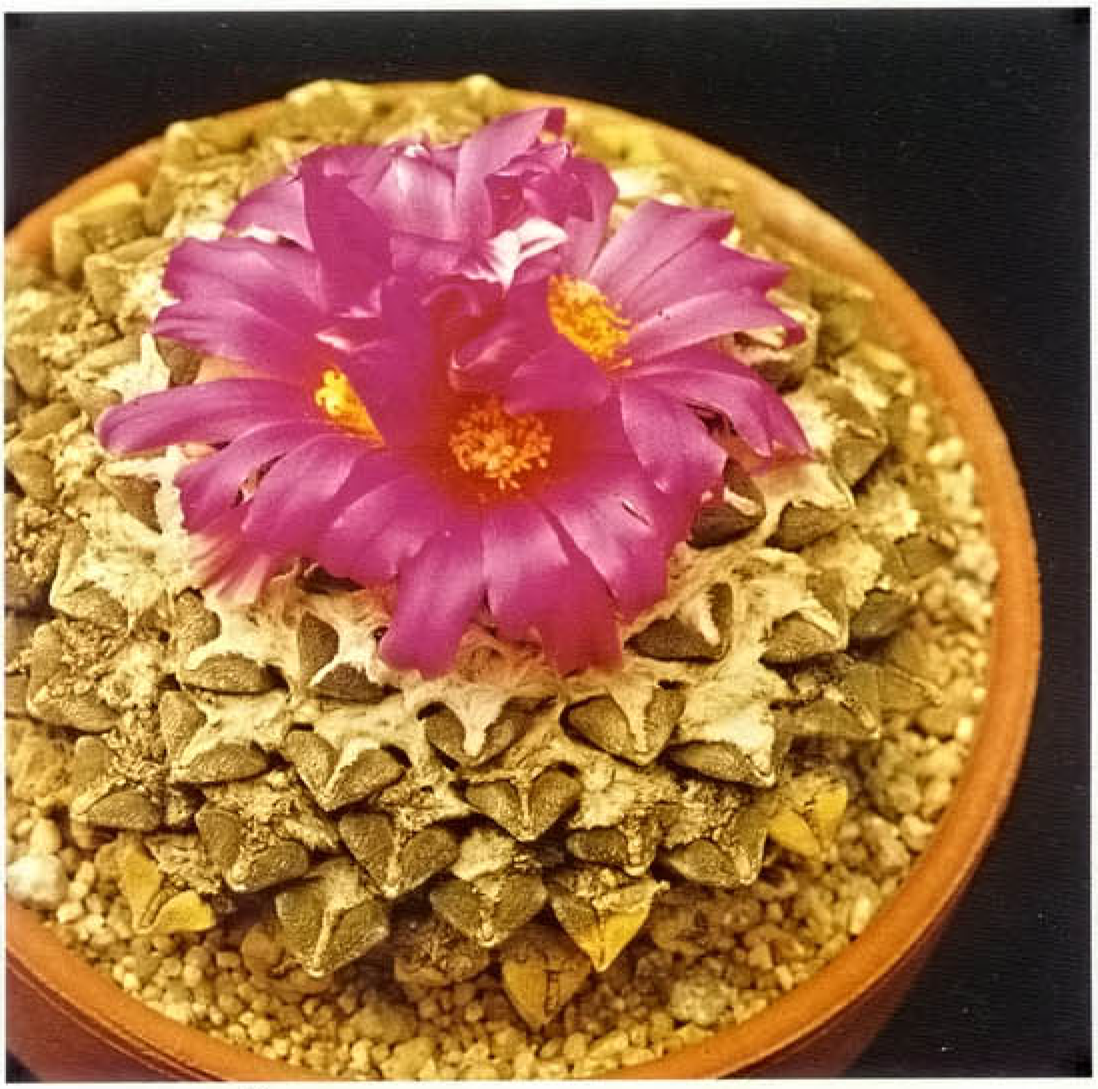

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ARIOCARPUS **KOTSCHOUBEYANUS** (Lem.) K. Sch.
Syn: *Roseocactus kotschoubeyanus* (Lem.) Berger; *Anhalonium kotschoubeyanus* Lem.

Plants are up to about 3in in diameter with close-set, three-angled tubercles to about ½in long, ⅓in broad, flat on the upper surface, and dark green, with a woolly furrow. Flowers are diurnal, from the center of the plant, to 1¼in long and 2in across, purplish or pink in color, appearing in early summer. Water in moderation late spring and summer; keep dry in winter. Requires bright light; an enriched porous mineral compost; minimum temperature 50°F. *Mexico (Coahuila).*

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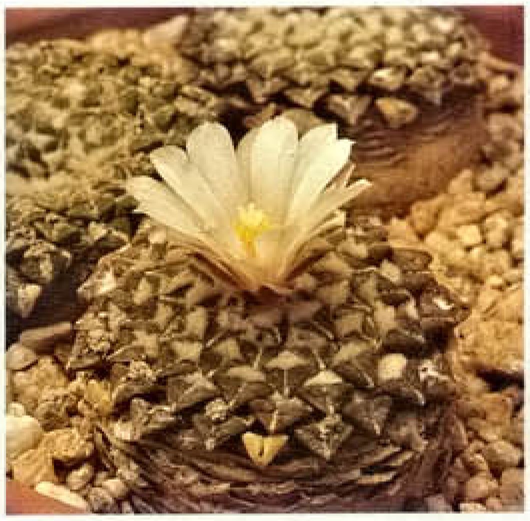

ARIOCARPUS **KOTSCHOUBEYANUS var. ALBIFLORUS** Backeb.

Differs only in respect of the flower color, which is white. *Mexico (Nuevo Leon).*

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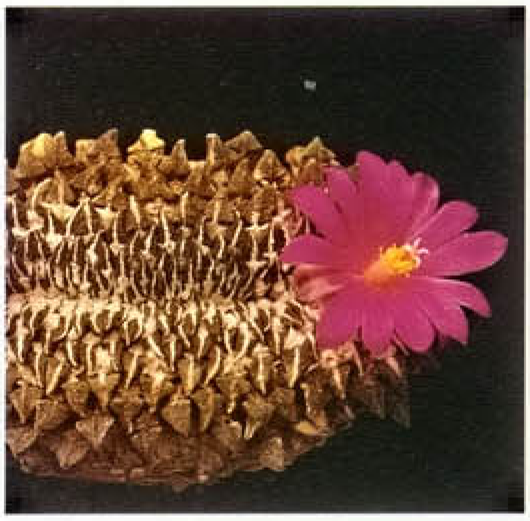

ARIOCARPUS **KOTSCHOUBEYANUS**
'Cristate form'

An unusual fasciated form with magenta flowers set well apart.

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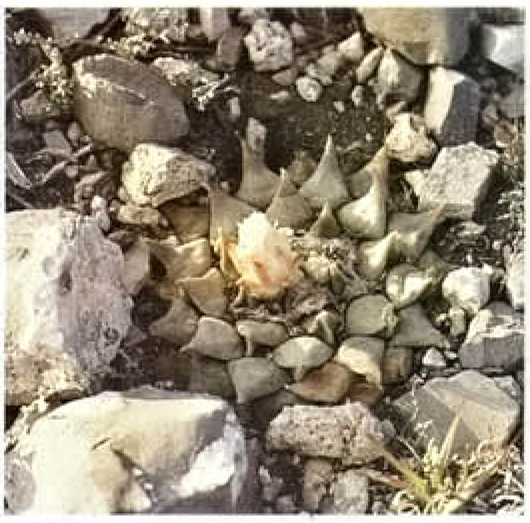

ARIOCARPUS **RETUSUS** Scheidw.
Syn: *Anhalonium retusum* Salm-Dyck; *Ariocarpus furfuraceus* Thomson

Plants are up to 10in in diameter and are covered with spreading, bluish-green tubercles with horny tips. Each tubercle is about ¾in long, flat on the upper surface. Flowers are diurnal in summer, 1½–2in in diameter, varying in color from white to pale pink. As with all *Ariocarpus*, plants arise from a thickish tap root, so require careful watering in summer. Keep completely dry in winter. Requires sun; porous rich soil; minimum temperature 50°F. *Mexico (San Luis Potosi, Nuevo Leon).*

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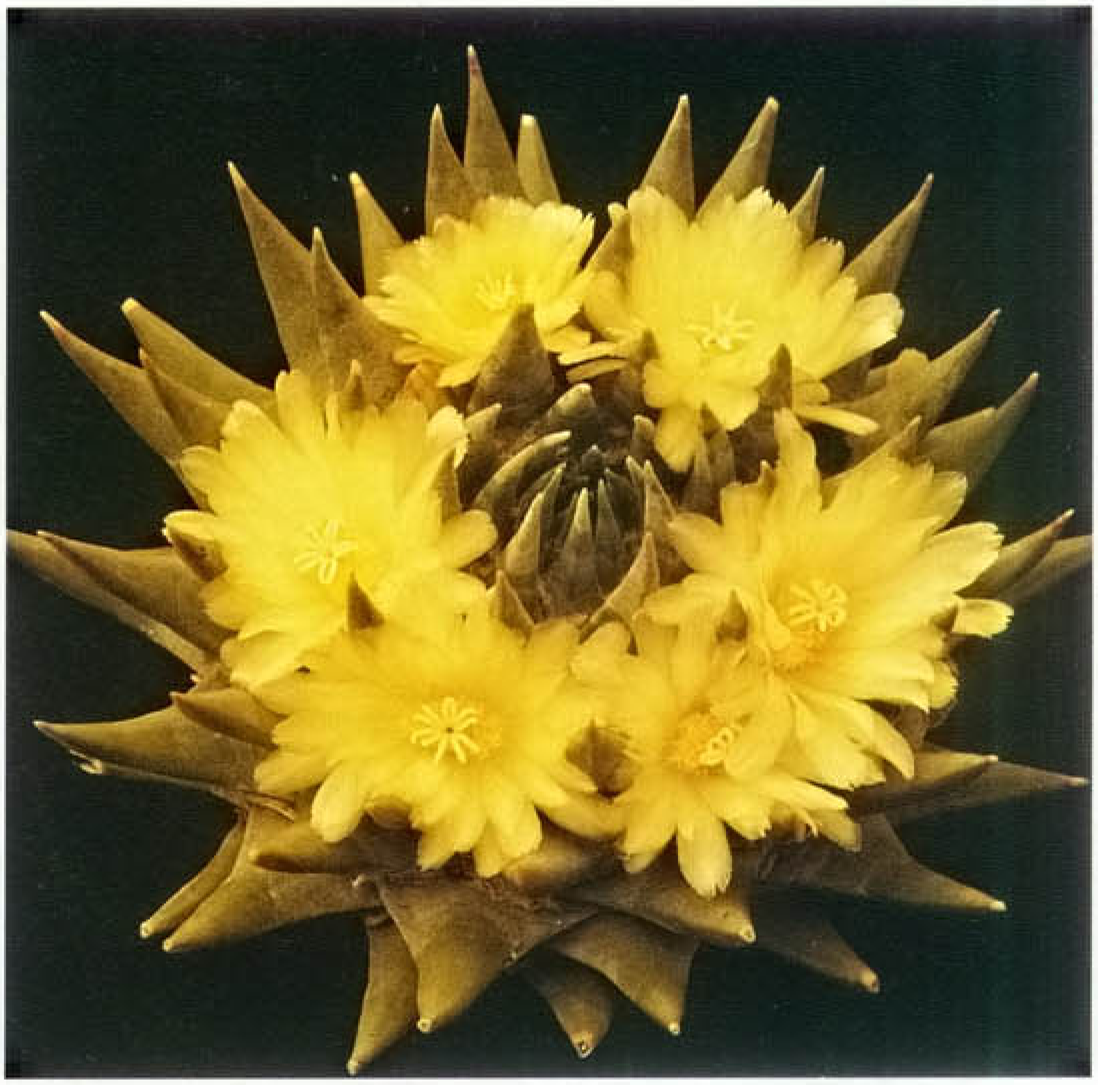

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ARIOCARPUS **TRIGONUS** (Weber) K. Sch.
Syn: *Anhalonium trigonum* Weber

The plants vary in size from 4–6in in diameter with many semi-erect, grayish-green tubercles to 2in long, 1in broad at the base. They are acutely triangular with a flat, unfurrowed upper surface and acute tips. Areoles are spineless. The flowers arise from the axils of the tubercles and are yellowish, about 2in across, diurnal, and appearing in mid-summer. Needs a bright, sunny location; a gritty, but enriched compost; no water in winter; minimum temperature 55°F. *Mexico (Nuevo Leon, Tamaulipas).*

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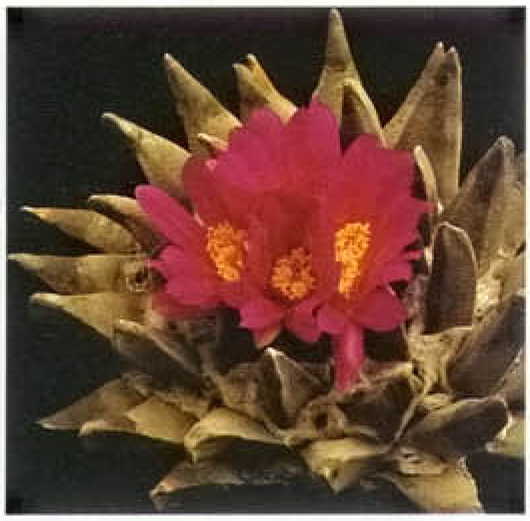

ARIOCARPUS **SCAPHAROSTRUS** Böed.

A miniature species to about 3½in in diameter with thick, dull, grayish-green tubercles to 2in in length, flat on the upper surface with blunted tip, and no furrow. Plants seem to be without areoles and are definitely spineless, but lined with thick grayish-white wool between the tubercles. Flowers appear from the center of the plant in summer and are diurnal, bright rose purple and 1–1½in across, with a creamy-white style and golden-yellow stamens. Keep dry in winter. Flourishes in bright sun; needs a coarse, porous compost; minimum temperature 55°F. *Mexico (Nuevo Leon).*

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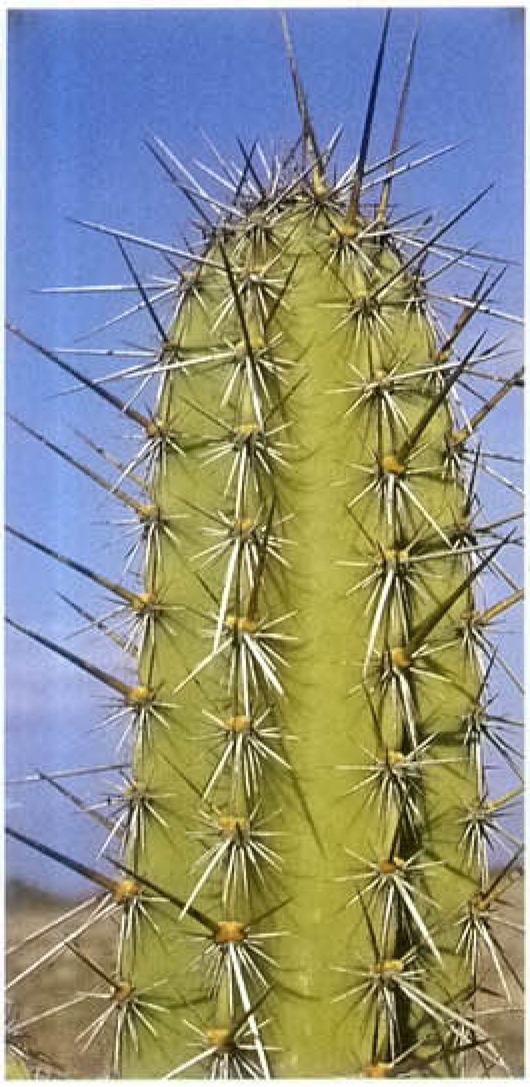
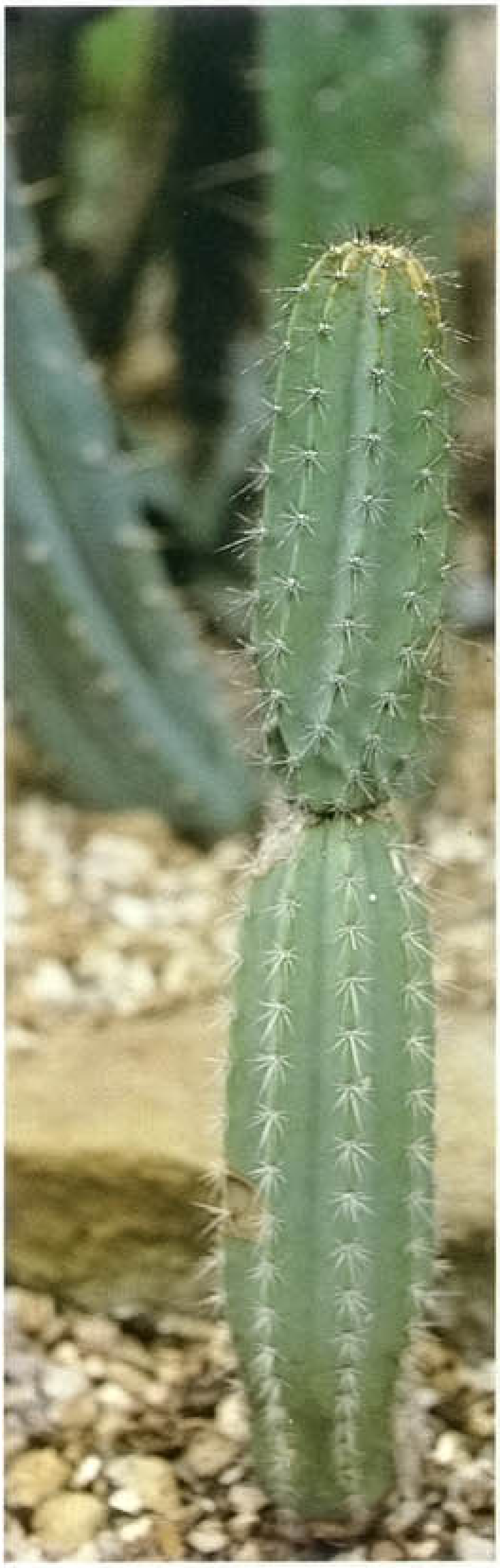


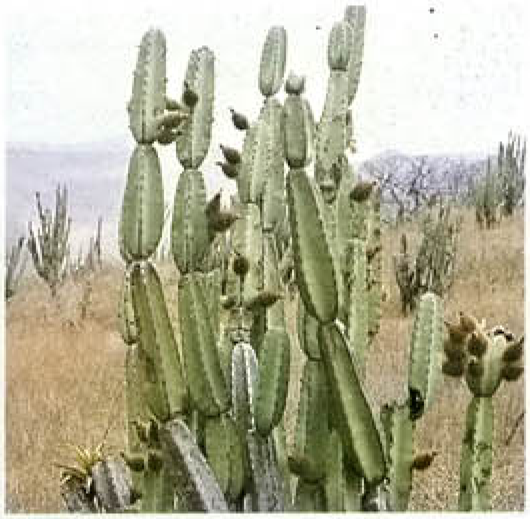
ARMATOCEREUS **CARTWRIGHTIANUS** (Br. & R.) Backeb.
Syn: *Lemaireocereus cartwrightianus* Br. & R.

Columnar plants up to 16½ft high, branching freely. The branches consist of dull green joints 6in–2ft in length, 3¼–6in thick, with seven to eight prominent ribs. Large brown areoles bear about 20 whitish or dark brownish spines ½–¾in long. Flowers, appearing in summer, are nocturnal; the inner petals are white, outer petals reddish, and 3in long. Requires slight shade; normal cactus compost; minimum temperature 55°F. *Ecuador, Northern Peru.*



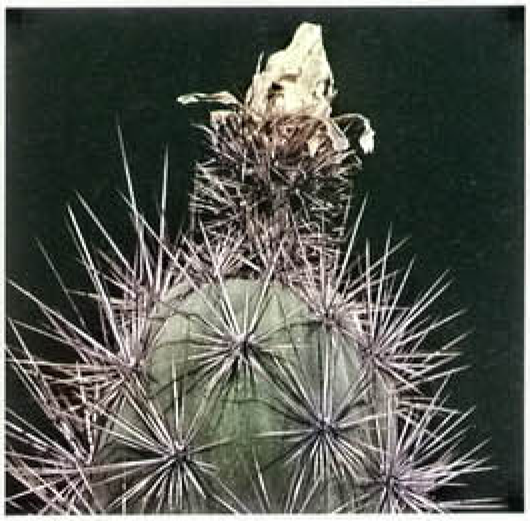
ARMATOCEREUS **LAETUS** (HBK.) Backeb.
Syn: *Lemaireocereus laetus* (HBK.) Br. & R.

Grayish-green columnar plants 13–20ft high, branching freely from the base, with four to eight ribs. The branches are formed of joints which indicate the growth of successive years. Areoles, ¾–1in apart, bear up to 12 brownish-gray spines, ½–¾in long, sometimes much longer. Flowering is in summer, and nocturnal; the flowers are white, 2½in long, 2in across. Requires good light; normal cactus compost; minimum temperature 55°F. *Northern Peru.*



ARMATOCEREUS **OLIGOGONUS** Rauh & Backeb.

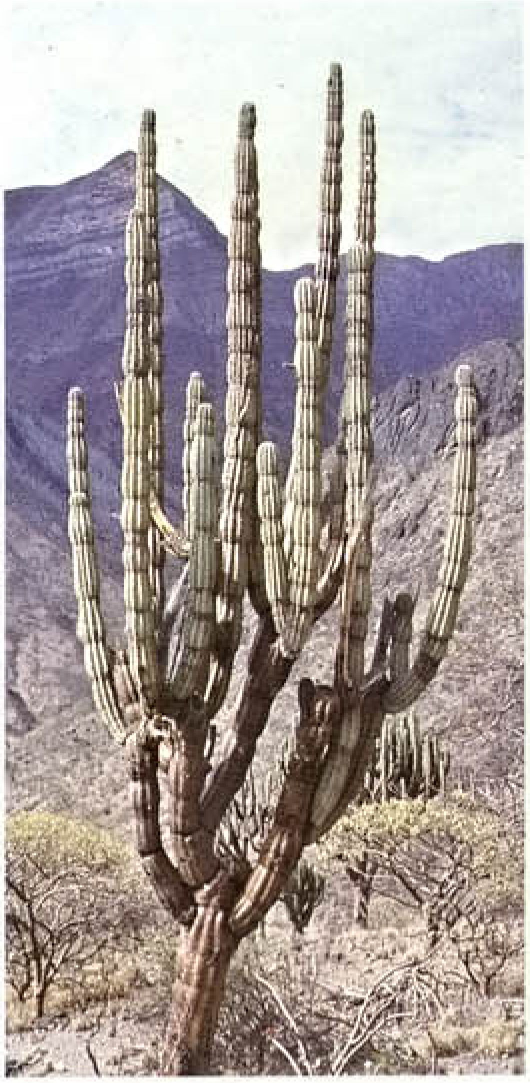
Closely allied to *A. ghiesbreghtii* and *A. laetus*. A tree-like columnar plant about 10ft tall; the stems have four to five prominently angled ribs, dull greenish in color. Areoles bear gray spines, eight to twelve radials up to ⅔in long, and one to two centrals, usually considerably longer. Nocturnal flowering in summer; the flowers are white, about 2½in long, 1¾–2in in diameter. Needs sun; normal cactus compost; minimum temperature 55°F. *Peru (Huancabamba).*



ARMATOCEREUS **PROCERUS** Rauh & Backeb.

Columnar plants to 23ft high, dark green or gray-green, with eight to ten ribs, and large areoles bearing many whitish or brownish spines of varying lengths: 15–20 radials up to ¾in long and four centrals to 4¾in in length. Flowering is in summer, and nocturnal. The flowers are white, 4in long, 2in across, from the tips of the stems. Bright light is essential; normal cactus compost; minimum temperature 55°F. *Southern Peru (Nazca).*

ARMATOCEREUS

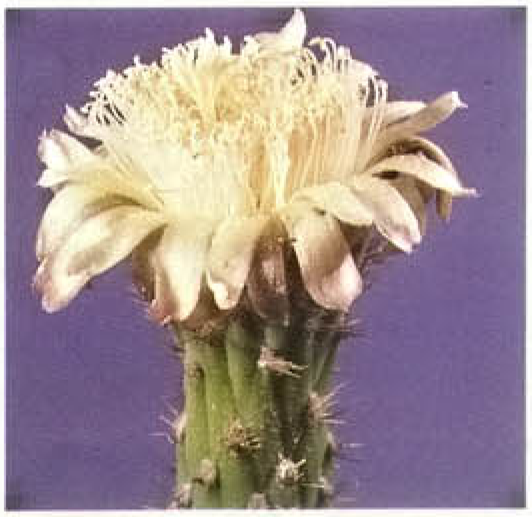


ARMATOCEREUS **RAUHII** Backeb.

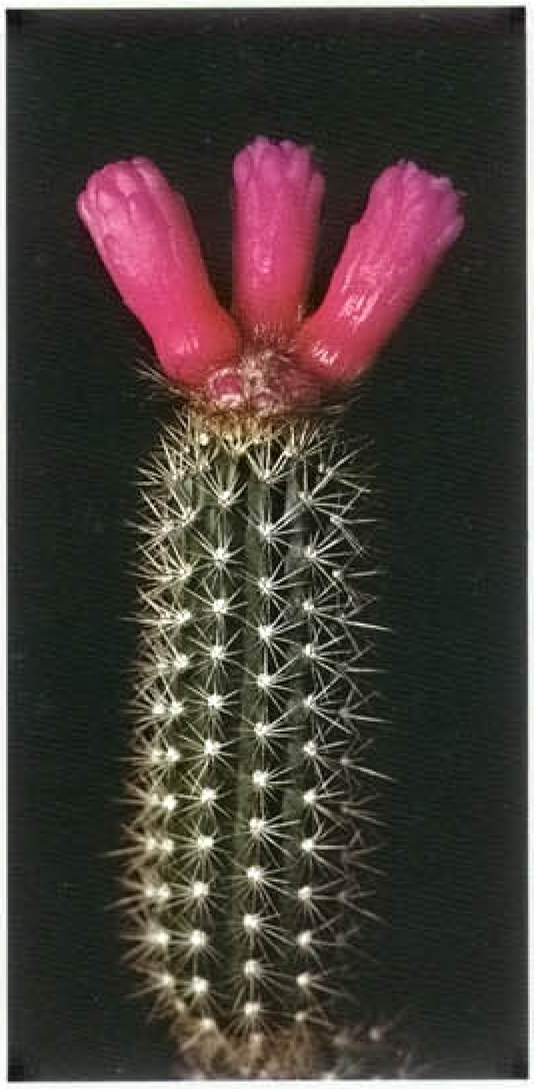
Columnar tree-like plants 13–20ft high. The branches are bluish gray-green with prominent joint-like constrictions. There are 10–13 ribs with small whitish areoles bearing six to ten radial spines 1/16in long and sometimes a few centrals varying from ¼in to 1in in length. Flowering in mid-summer, the flowers are carmine red. Requires a bright position; normal cactus compost; minimum temperature 55°F. *Northern Peru.*

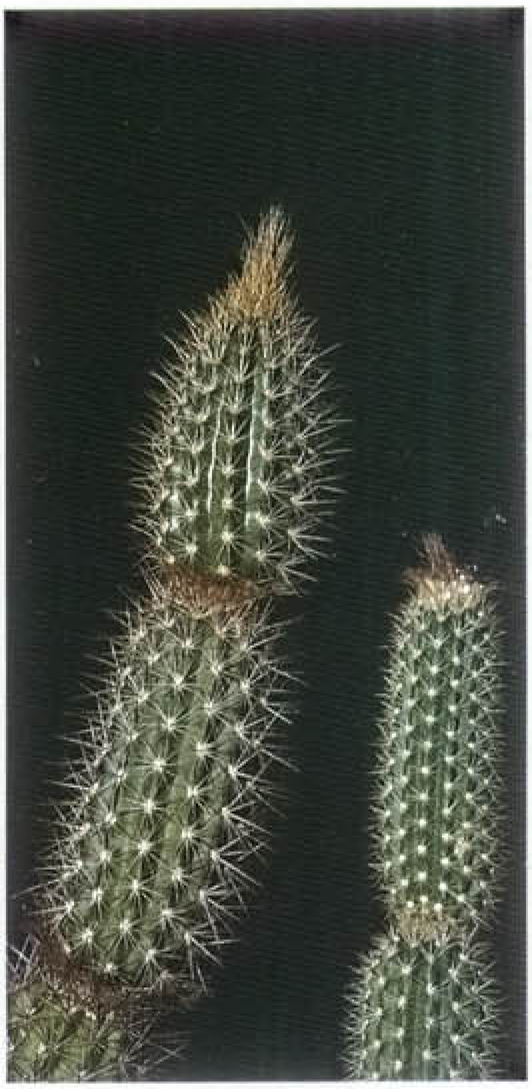
ARMATOCEREUS **RIOMAJENSIS** Rauh & Backeb.

Columnar plants up to about 6½ft high, they are dark grayish green with seven to nine narrow ribs about ¾in high. The areoles are round and brownish, bearing 10–15 grayish radial spines to ½in long, and usually one to four centrals which are longer. The plant is night flowering, in summer; flowers are white, 3¼–4in long. Bright light is needed; normal cactus compost; minimum temperature 55°F. *Southern Peru (Rio Majes-Tal).*



ARROJADOA



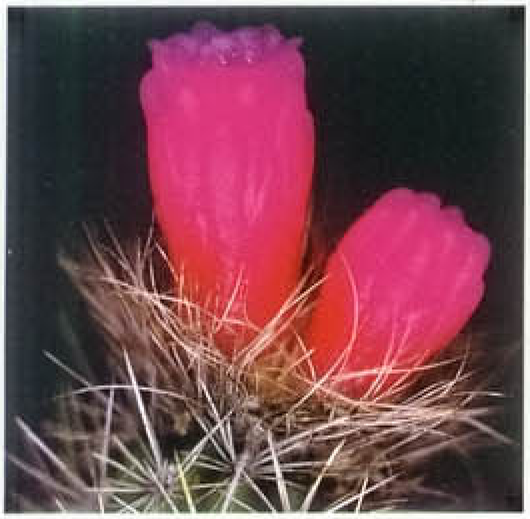


ARROJADOA **AUREISPINA var. ANGUINEA** Braun & Esteves

A thin-stemmed, often creeping plant to about 3ft long, ⅔–1in thick with 13–15 ribs bearing more or less flexible yellowish or brownish spines, consisting of 10-15 radials 1/16–1/5in long and four centrals 1/10–1/3in in length. Flowers are semi-nocturnal in summer, rose to pink, up to 1½in long. Requires bright light; normal cactus compost; minimum temperature 50°F. *Brazil (Bahia).*

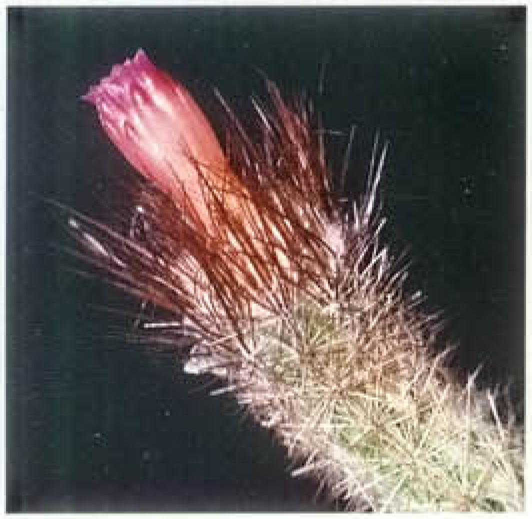
ARROJADOA **AUREISPINA var. AUREISPINA** Buin. & Bred.

An erect plant to about 3ft tall, with 2–2¼in diameter stems. Spines are golden yellow, with many radials and about nine centrals up to ⅔in long. Flowers are rose pink, somewhat tubular ir shape, around 1in long, appearing by day in summer. Needs bright light but not direct sun; normal cactus compost; minimum temperature 50°F. *Brazil (Bahia).*



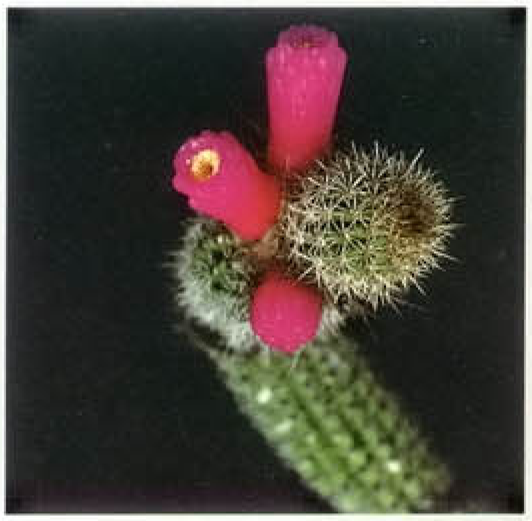
ARROJADOA **AUREISPINA var. GUANAMBENSIS** Braun & Heimen

An erect to creeping species with stems to about 1ft long and 1¼in thick with 10–11 ribs bearing many brownish spines to ⅔in in length, including five to seven centrals. Flowers are diurnal in summer, deep rose pink and 1¼in long. Requires filtered light; normal cactus compost; minimum temperature 50°F. *Brazil (Bahia).*



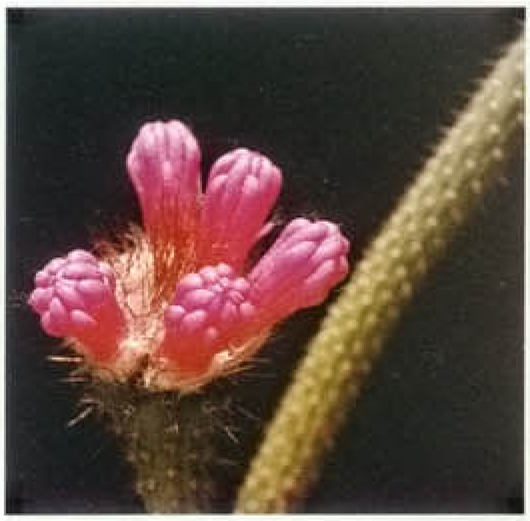
ARROJADOA **BEATEAE** Braun & Esteves

An unusual species only discovered in 1987. It has more or less erect stems with about 10 ribs, many yellowish-brown spines, and bicolored flowers of rose pink and yellowish white arising from the terminal dark-brown spiny cephalium. Needs slight shade; normal cactus compost; minimum temperature 50°F. *Brazil (Minas Gerais).*



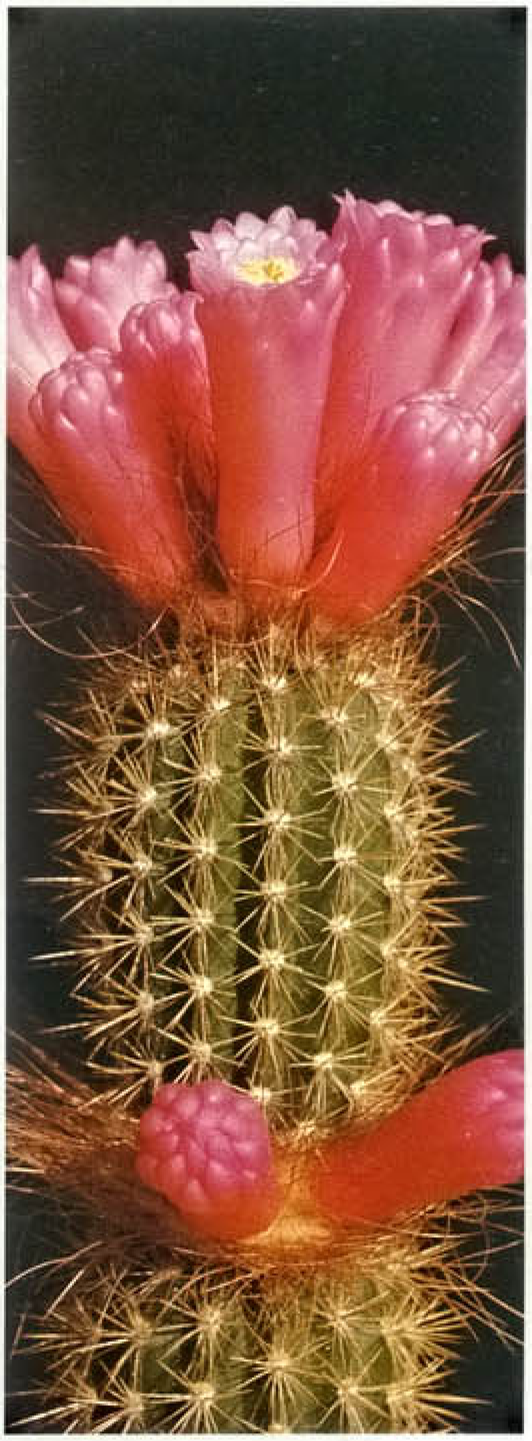
ARROJADOA **HORSTIANA** Braun & Heimen

One of the more remarkable species of the genus and a native of high mountainous regions. Stems are almost globular between the cephalia and carry only very short spines. Flowers are small, almost tubular in shape, purplish red, and day flowering in summer. Needs bright light; normal cactus compost; minimum temperature 50°F. Very careful watering is essential. *Brazil (Minas Gerais).*



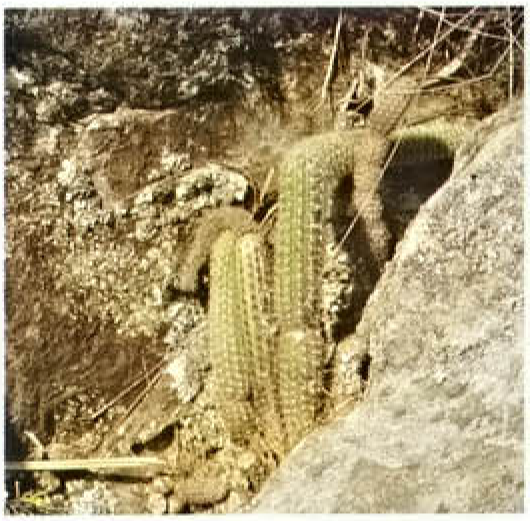
ARROJADOA **PENICILLATA** (Gürke) Br. & R.

A bushy, clustering species with semi-erect or prostrate stems up to 6½ft in length, about ⅔in in diameter, with 10–12 shallow ribs. Spines are yellowish, eventually gray, consisting of eight to twelve radials and one or two centrals from ½–1in long. Flowers appear in clusters from a reddish-brown, bristly cephalium in summer, and are diurnal, bright deep pink, ¾in long and across. Needs good light; normal cactus compost; minimum temperature 50°F. *Brazil (Bahia).*



ARROJADOA **RHODANTHA** (Gürke) Br. & R.

An erect, often climbing plant to about 6½ft tall. The stems are more or less cylindrical, dark green, and ¾–1½in thick. There are 10–14 low-set ribs with areoles arranged about ½in apart. Spines are at first yellowish, then become brown, of which about 20 are radials and five to six centrals, all very similar at ½–1in long. Flowers arise in early summer from a brown, woolly, reddish-brown bristly cephalium. The blooms are tubular, pink and diurnal. Stems then continue to grow through the cephalium to form another flowering apex the following year. Very occasionally an unusual form occurs when the cephalium becomes cristated with bristles and wool running laterally on the stem. Requires full sun; normal cactus compost; minimum temperature 55°F. *Brazil (Bahia, Minas Gerais).*

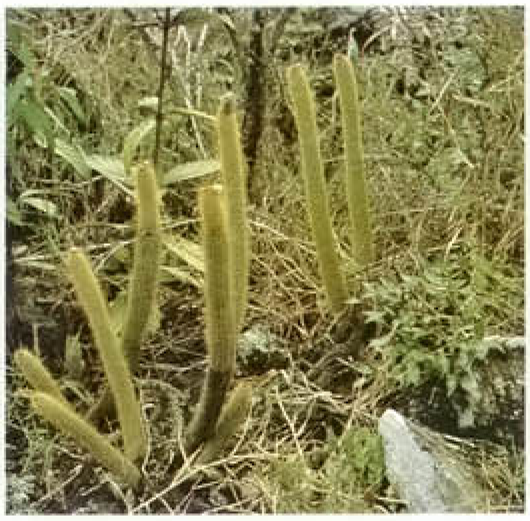


ARTHROCEREUS **sp. nova**

A small genus of Brazilian columnar plants, some decumbent, others more or less erect in habit. The one featured appears to be a new discovery and closely related to *A. rondonianus*, which has bright green stems 8in–1½ft tall and up to 1½in thick with about 13 ribs and many fine yellowish radial spines about ⅕in long, with one or two centrals usually much longer. Flowers, which are nocturnal and appear in mid-summer, are lilac pink, about 4in long. Requires bright light; normal cactus compost; minimum temperature 55°F. *Brazil (Minas Gerais).*

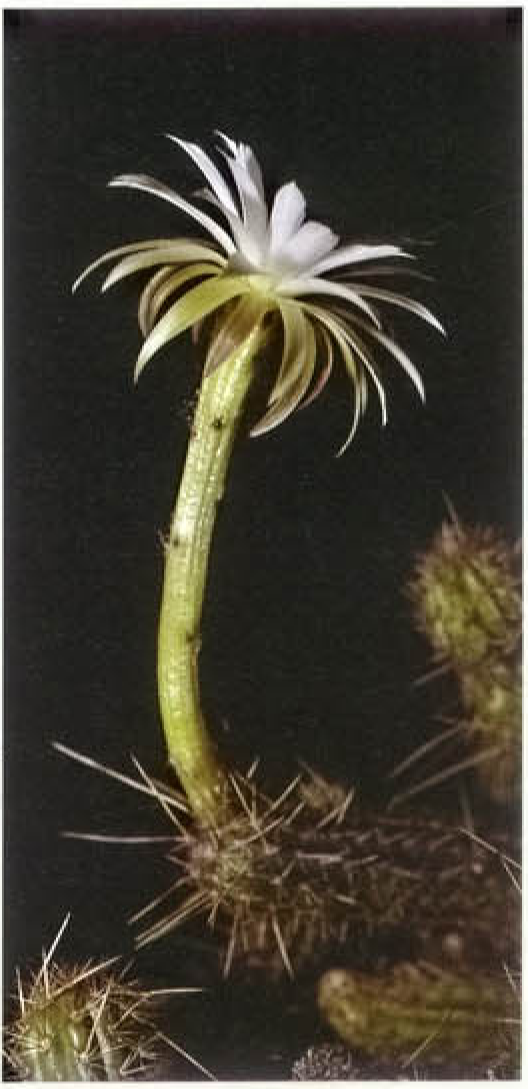
ARTHROCEREUS **CAMPOS-PORTEI** (Werd.) Backeb.

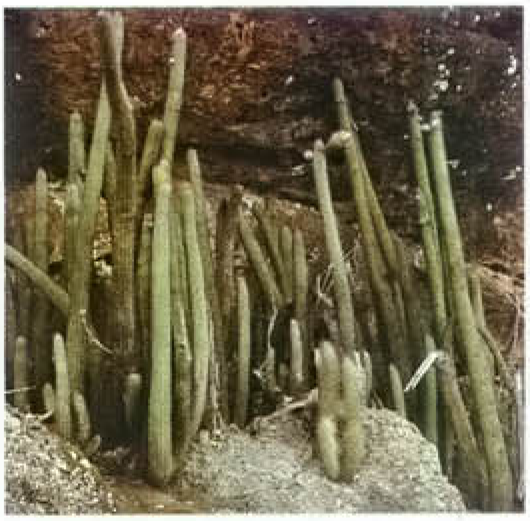
A semi-decumbent, clustering species with stems to 6in long, 1in thick, and about 12 ribs. Spines are brownish becoming white, consisting of 25–35 radials ⅓in long and one or two centrals to 1½in in length. Night flowering in summer, the flowers are white, about 3¼in long. Needs fairly bright light; normal cactus compost; minimum temperature 55°F. *Brazil (Minas Gerais).*



ARTHROCEREUS **MELANURUS var. ESTEVESII** Diers & Braun

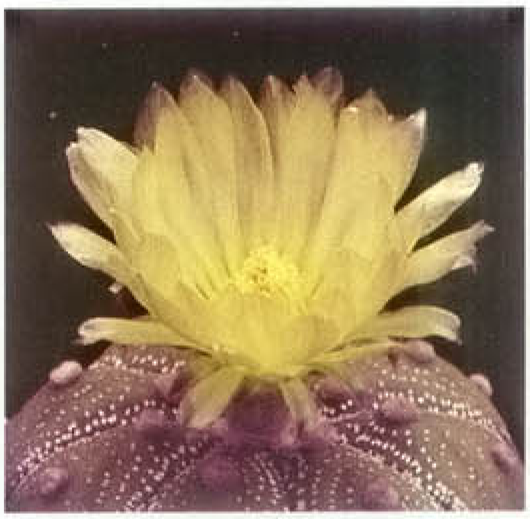
The species was earlier included in *Cereus* and *Leocereus*. Stems are cylindrical to 1½ft long, 1in or more thick, branching from the base. Ribs number about 15, the areoles bearing golden-yellow spines varying from ⅛in to 2in in length. Flowers are funnel-shaped, yellowish, and about 2½in long. The plant is night flowering, in summer. Bright light is essential; normal cactus compost; minimum temperature 55°F. *Brazil (Minas Gerais).*





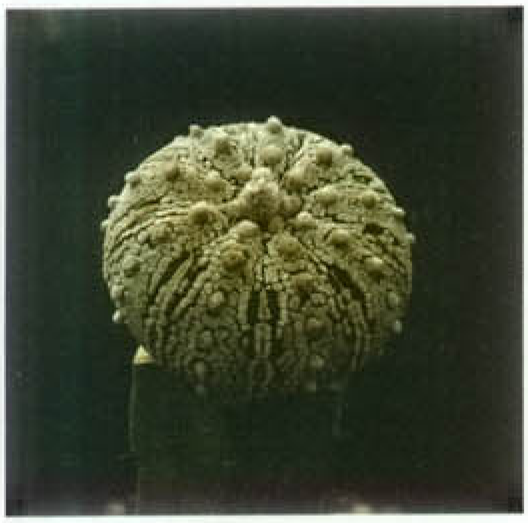
ARTHROCEREUS **SPINOSISSIMUS** (Buin. & Bred.) Ritter.
Syn: *Eriocereus spinosissimus* Buin. & Bred.

A rare and unusual species which frequents an area thousands of miles away from the generally accepted habitat of the genus. The erect green plants, branching from the base with 16 or more ribs, close-set areoles, and numerous spines, are night flowering in mid-summer. The flowers are pale pink(?) but it has not yet flowered in cultivation. Needs good light; slightly calcareous cactus compost; minimum temperature 55°F. *Brazil (Mato Grosso).*



ASTROPHYTUM **ASTERIAS** (Zucc.) Lem.
Syn: *Echinocereus asterias* Zucc.

A globular, solitary species, slightly flat on the top, about 4in in diameter with six to eight or more totally flat ribs with straight grooves between and white, conspicuous, spineless areoles set lengthwise on the ribs. Stems are purplish brown and the flowers are diurnal in early summer, about 1in long and 1½in across, yellow, slightly reddish in the throat, but pollen tends to disguise this coloration. Requires a sunny position; normal cactus compost; minimum temperature 45°F. *Mexico (Tamaulipas).*



ASTROPHYTUM **ASTERIAS fma 'Mirakuru Kabuto'**

An extraordinary variant known from just one individual field-collected plant and sold at a high price in Japan. Propagations have been made possible by cross-pollinating with the typical form or by grafting. The title is Japanese for "miracle plant."

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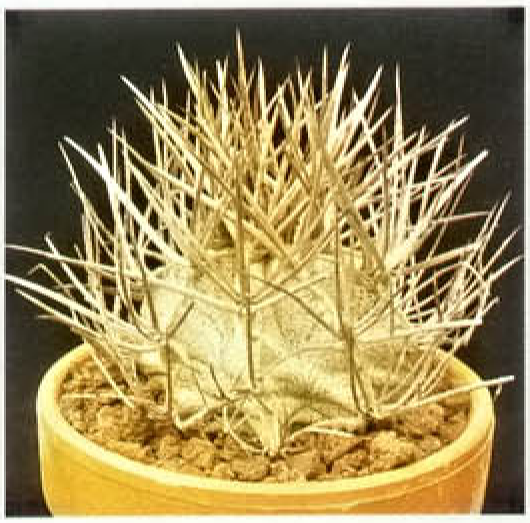

ASTROPHYTUM **CAPRICORNE var. CRASSISPINUM** (Möll.) Ok.

A rare variety mainly found in Coahuila which has particularly thick spines. Day flowering in summer, the flowers are long, red, and yellow. *Northern Mexico.*

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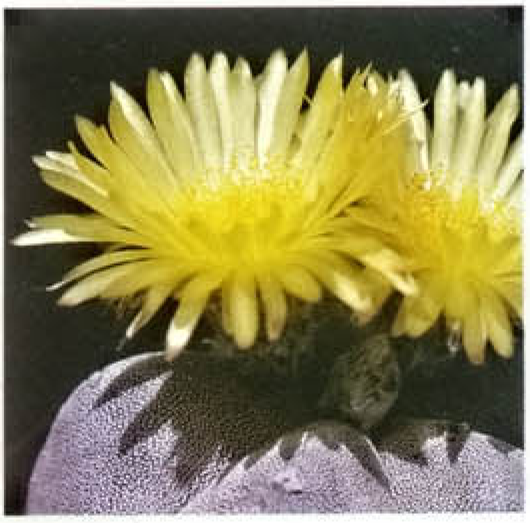

ASTROPHYTUM **MYRIOSTIGMA**
(Salm-Dyck) Lem.
Syn: *Echinocactus myriostigma* Salm-Dyck

A high-altitude species found at over 6,563ft, the plant is more or less rounded and 4–8in in diameter, basically green but totally covered with minute whitish scales which obliterate the green. It has four to eight ribs with brownish, woolly areoles, but no spines. Flowers appear in summer, and are diurnal, 1½–2½in long and across, yellow, sometimes with a red center. Requires a bright location; normal cactus compost; minimum temperature 50°F. *Northern and Central Mexico.*

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ASTROPHYTUM **CAPRICORNE** (Dietr.)
Br. & R.
Syn: *Echinocactus capricornis* Dietr.;
Maierocactus capricornis Rost.

Plants are globular, becoming oval to about 8in high, 4in broad with about eight to nine acute ribs, deeply grooved between with brownish areoles, and dotted with many whitish scales. There are many long and twisted spines, 1–4in long, yellowish to brownish-black. Flowers, yellow with a reddish center, are diurnal, in early summer, growing from areoles near to the top, and are 2½–3in long. Requires full sun; normal cactus compost; minimum temperature 50°F. *Northern Mexico.*

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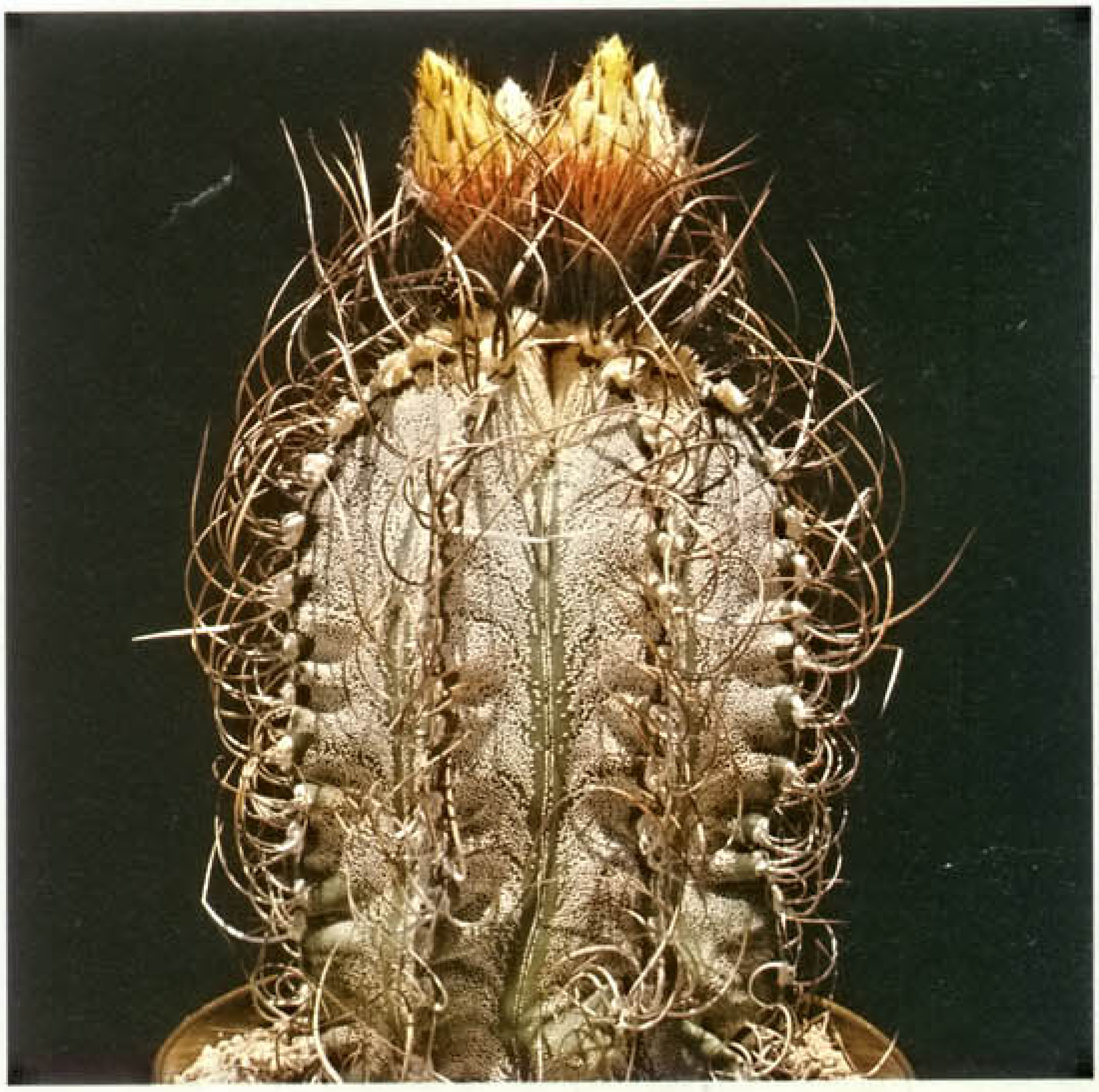

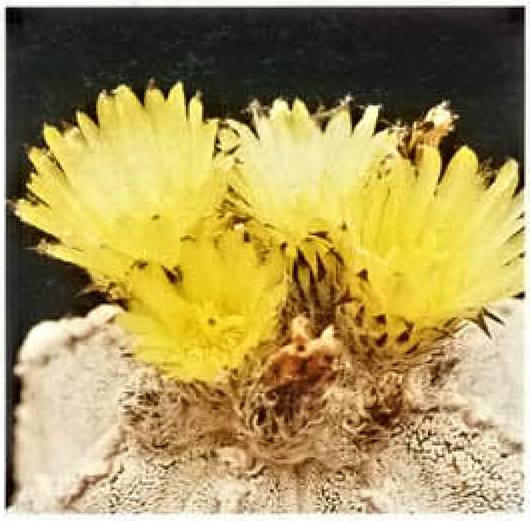

ASTROPHYTUM MYRIOSTIGMA var. COAHUILENSIS Möll

Syn: *Astrophytum coahuilense* (Möll.) Kayser

A somewhat conical species with five straight, broad ribs densely covered with whitish scale-like dots. The areoles are spineless. Flowers are produced from near the crown of the plant, and are diurnal in mid-summer. The blooms are bright sulfur-yellow with a minute reddish blotch in the throat. A sun-loving plant; requires normal cactus compost; minimum temperature 45°F. *Mexico (Coahuila).*

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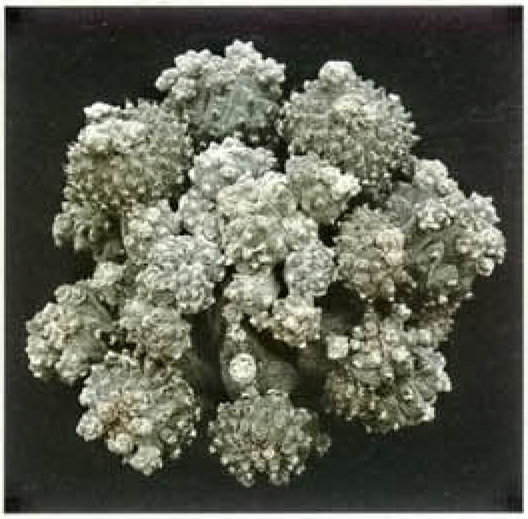

ASTROPHYTUM MYRIOSTIGMA fma 'LOTUSLAND'

A peculiar monstrose form which was developed in cultivation in the Botanic Garden, Lotusland, at Santa Barbara, California. It flowers infrequently; the flowers are yellow.

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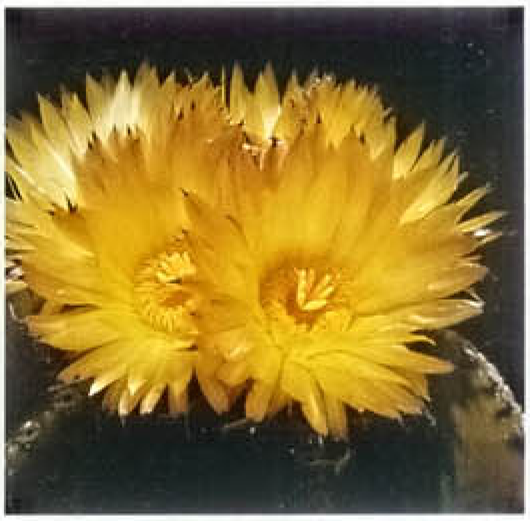

ASTROPHYTUM MYRIOSTIGMA var. POTOSINUM (Möll.) Krzgr.

A variant of the species, similar in shape but with far fewer whitish scales, giving the body a dark grayish-green color. It has five to seven straight, acute, or rounded ribs; the areoles are spineless. Flowers are diurnal, in summer; they are a bright, clear golden yellow with no red blotch in the center, 1 to 2in across when fully open. Requirements are the same as for the species. *Mexico (San Luis Potosi).*

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ASTROPHYTUM MYRIOSTIGMA var. COLUMNARE (K. Sch.) Tsuda

Syn: *Astrophytum columnare* (K. Sch.) Sadovsky & Schütz

An unusual, rather columnar plant. The stem is elongated to about 10in high, about 3¼in in diameter with seven to eight prominent ribs with furrows between, and the whole body is covered with fine, whitish scales. Areoles are spineless. Flowers are about 2½in long and across when fully open, yellow with a red blotch in the throat, and appear by day in summer. Needs a bright position; normal cactus compost; minimum temperature 50°F. *Mexico.*

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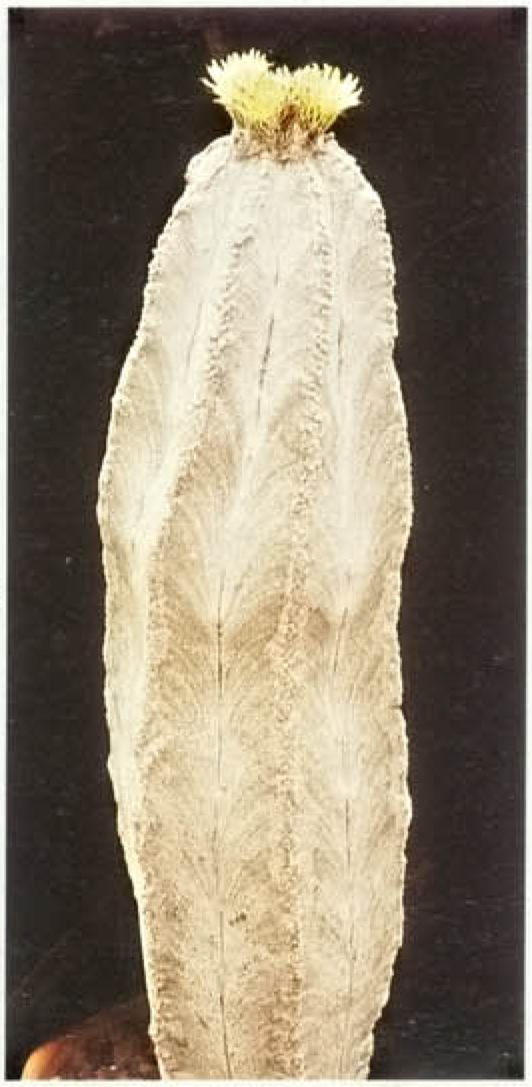

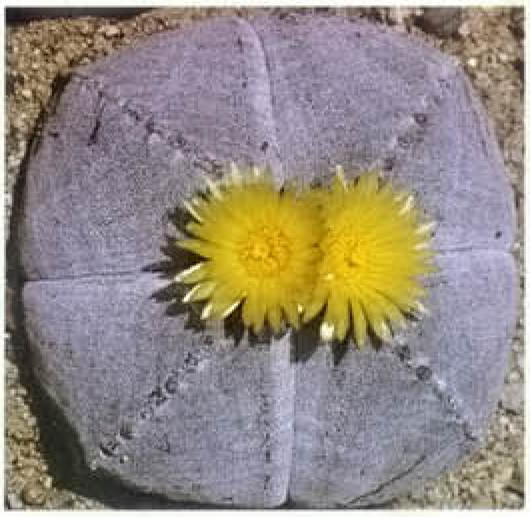

ASTROPHYTUM MYRIOSTIGMA var. QUADRICOSTATUM (Möll.) Baum.

An interesting variety in respect to the rib formation. The grayish-green body is divided into four almost even, broad ribs with a distinct furrow between. The flowers and requirements are the same as for the species. *Mexico (Central areas).*

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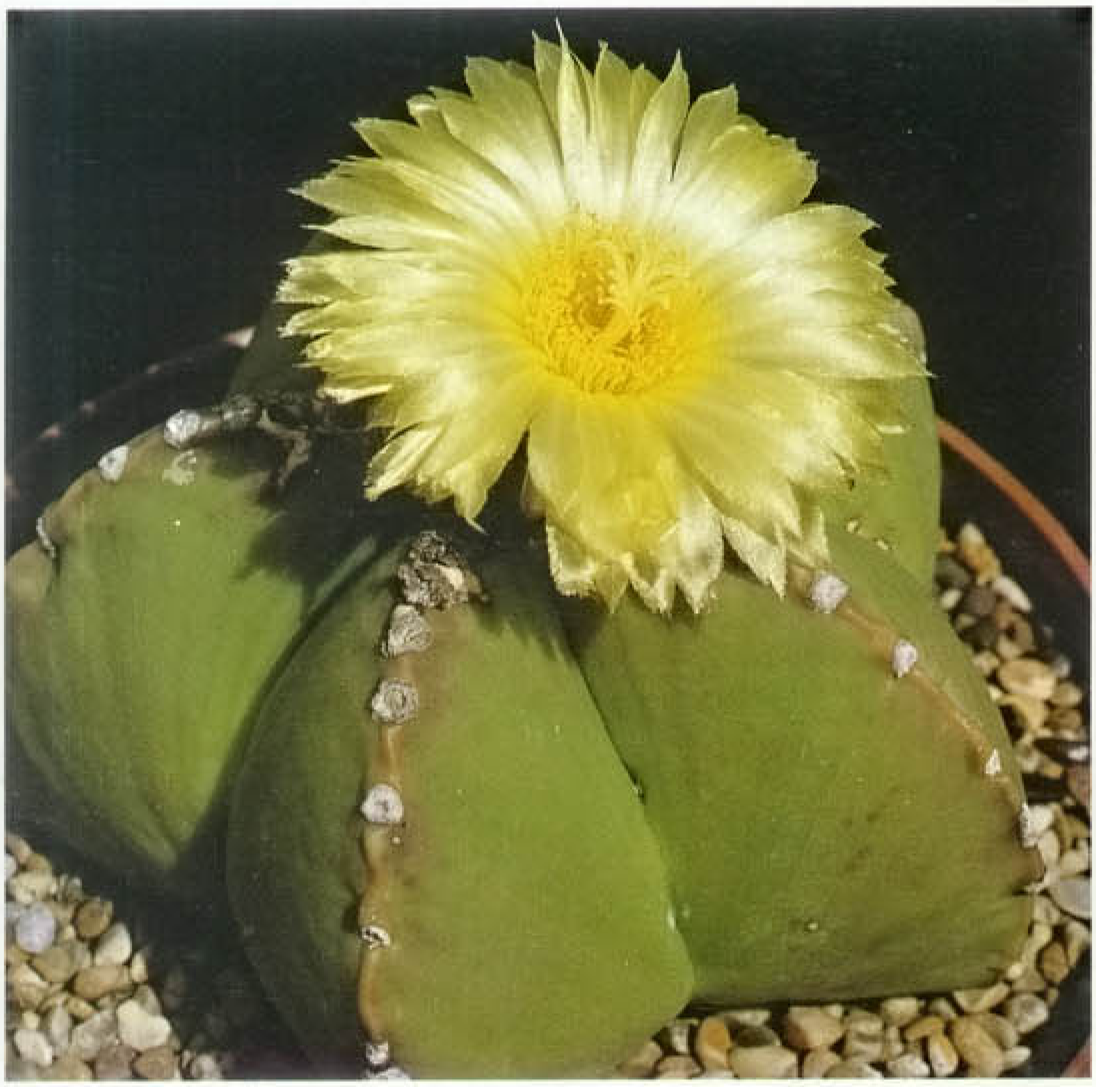

ASTROPHYTUM **MYRIOSTIGMA var. POTOSINUM** Backeb.

This variety is similar to the species in shape and other characteristics except that the body of the plant has few or no whitish scales or wool, remaining completely green, and is possibly synonymous with the variety *nudum* (R. Mey.) Backeb. Flowers and requirements are the same as for the species. *Mexico (Central areas).*

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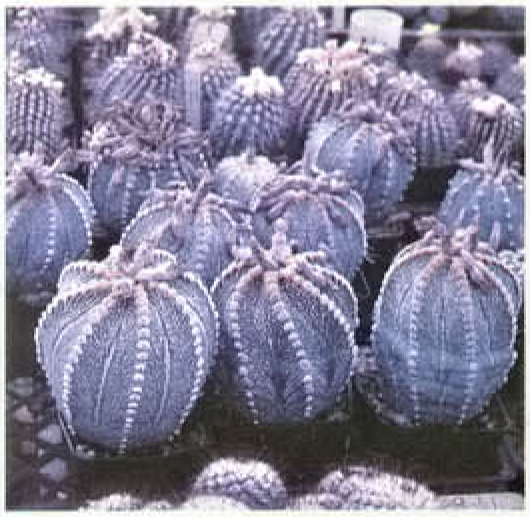

ASTROPHYTUM **MYRIOSTIGMA × ASTERIAS**

Several interesting and unusual hybrids have been developed by cross-pollination of these two fascinating species, many being the work of Gil Tegelberg of the USA. Cultivation requirements are as for the species.

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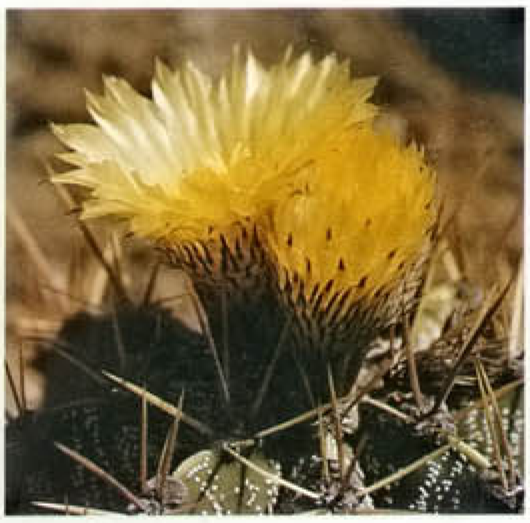

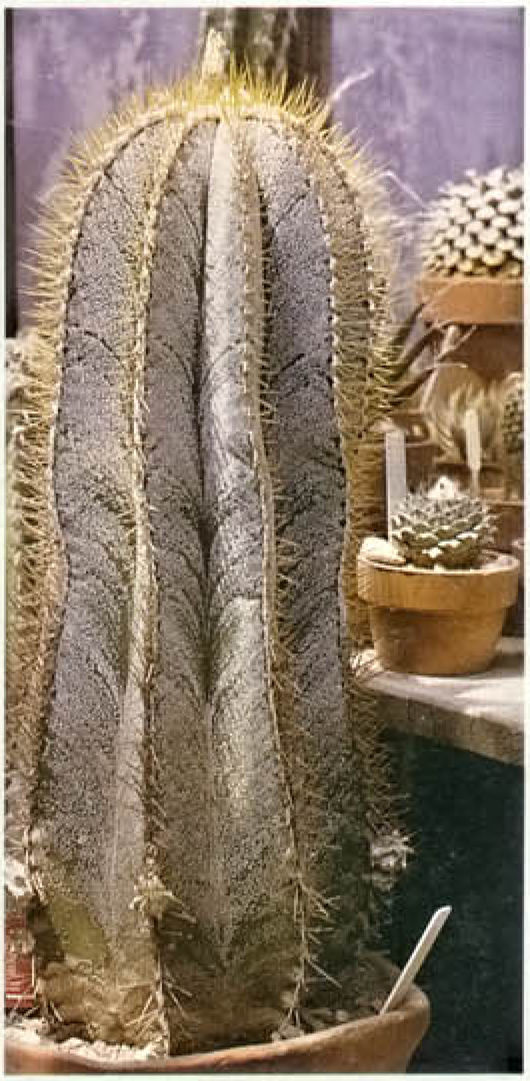

ASTROPHYTUM **ORNATUM** (DC.) Weber
Syn: *Echinocactus ornatus* DC.

An attractive species with a more cylindrical stem reaching 1ft high, to 6in in diameter. The whole body is dotted with silvery scales arranged in bands. There are eight ribs, straight or slightly spiraled; the close-set areoles bear five to eleven straight yellowish-brown spines to 1½in long. Flowers are diurnal, pale yellow, 3½in long and broad, and appear in early summer. Requires a truly bright position; normal cactus compost; minimum temperature 50°F. *Mexico (Hidalgo, Queretaro).*

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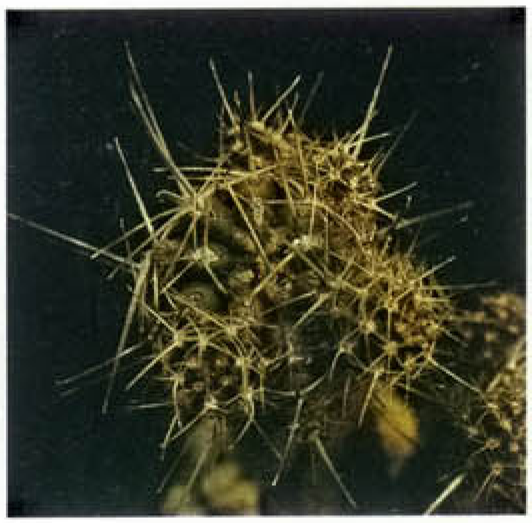
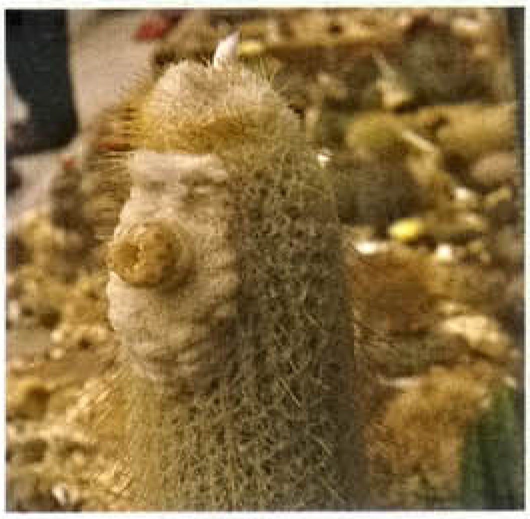


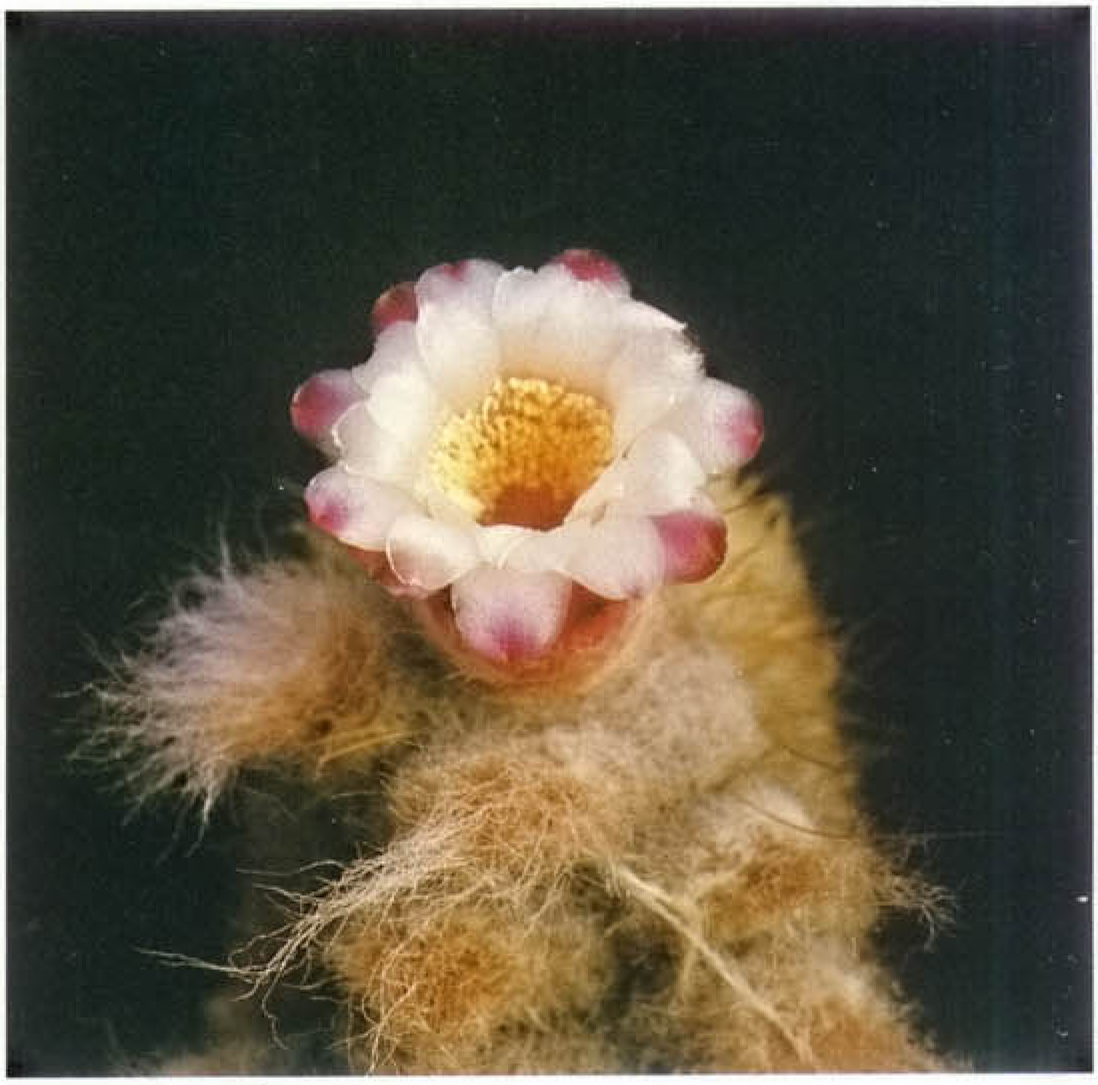
AUSTROCACTUS **HIBERNUS** Ritter

A short, erect, greenish plant to 4in long, 1in in diameter, with seven to eight distinct ribs to ¼in high. Areoles are pale yellow, bearing five to eight whitish radial spines 1–4in long, the upper one about ¾in and yellowish brown; one to four central spines ½–1in long. The diurnal flowers are borne on the tips of the stems in summer; they are yellowish brown, about 2in long. The plant needs careful cultivation: good light; normal cactus compost; minimum temperature best at 50°F. *Chile.*



AUSTROCEPHALOCEREUS **DYBOWSKII** (Goss.) Backeb.
Syn: *Cephalocereus dybowskii* (Goss.) Br. & R.; *Cereus dybowskii* Goss.

An erect, columnar plant 6½–13ft high, 3¼–4in thick. There are 20–28 low ribs densely covered with fine spines and matted yellowish wool; many fine radial spines and two to three yellowish centrals, ¾–1in long. The cephalium is of white wool, 8in–2½ft long, from which protrude whitish bell-shaped flowers 1½–2½in long. These are nocturnal, in summer. Needs sun; normal cactus compost; minimum temperature 59°F. *Brazil (Bahia).*



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AUSTROCEPHALOCEREUS **LEHMANNIANUS** (Werd.) Backeb.

Columnar plants up to about 6½ft tall with branches around 3¼in thick. They are bluish green, with about 20 ribs ⅕–⅓in high, the thick areoles bearing about 40 whitish spines to ¾in in length. The dense, woolly, bristly cephalium is about 1½ft long; flowers are nocturnal in summer, and are about 1¼in long, with white inner petals, externally reddish pink and scaly. Needs a bright sunny position; normal cactus compost; minimum temperature 59°F. *Brazil (Bahia).*

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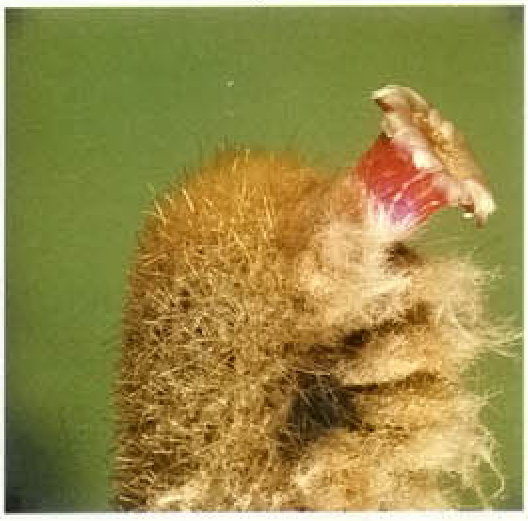

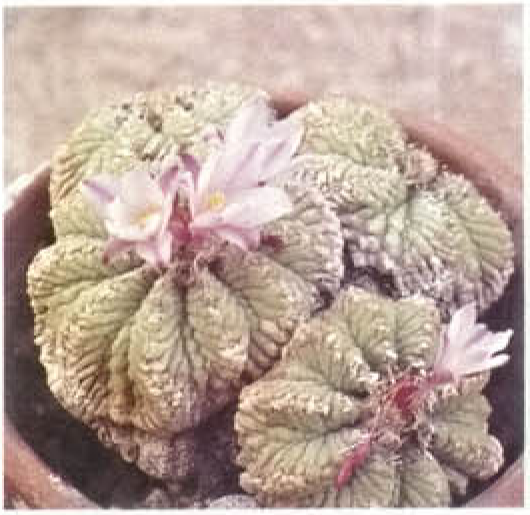

AZTEKIUM **RITTERI** Böed.
Syn: *Echinocactus ritteri* Böed.

A unique species of a flattened, globular shape to about 2in thick, often sprouting from the base to form compact groups. The nine to eleven ribs, about ⅓in high, ¼in broad, are olive green. Areoles are minute and closely set with one to four flat, papery, twisting spines to ⅛in long which soon fall. Flowers arise from new areoles in the center and are white or pink, ⅓in long, ¼in wide. Requires full sun; a porous mineral-based soil; minimum temperature 50°F. *Mexico (Nuevo Leon on stony, slate slopes).*

BACKEBERGIA

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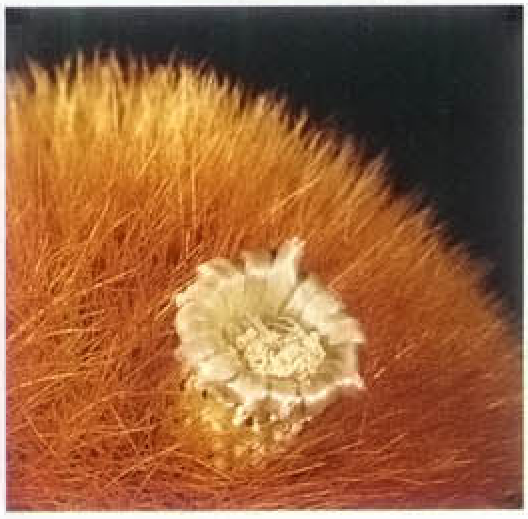

BACKEBERGIA MILITARIS (Audot) Bravo
Syn: *Cereus militaris* Audot; *Backebergia chrysomallus* (Lem.) Bravo

A tree-like columnar plant to 20ft tall, with stems up to 4¾in thick and five to eleven ribs. Areoles have grayish spines, seven to thirteen radials, and one to four centrals, ½in long. There is a terminal, dome-like cephalium of orange-brown bristles. Flowers are nocturnal, in summer, and are orange red opening to creamy white, up to 3in long, 1½in wide. Requires full sun; normal cactus compost; minimum temperature 55°F. *Mexico (Guerrero, Michoacan).*

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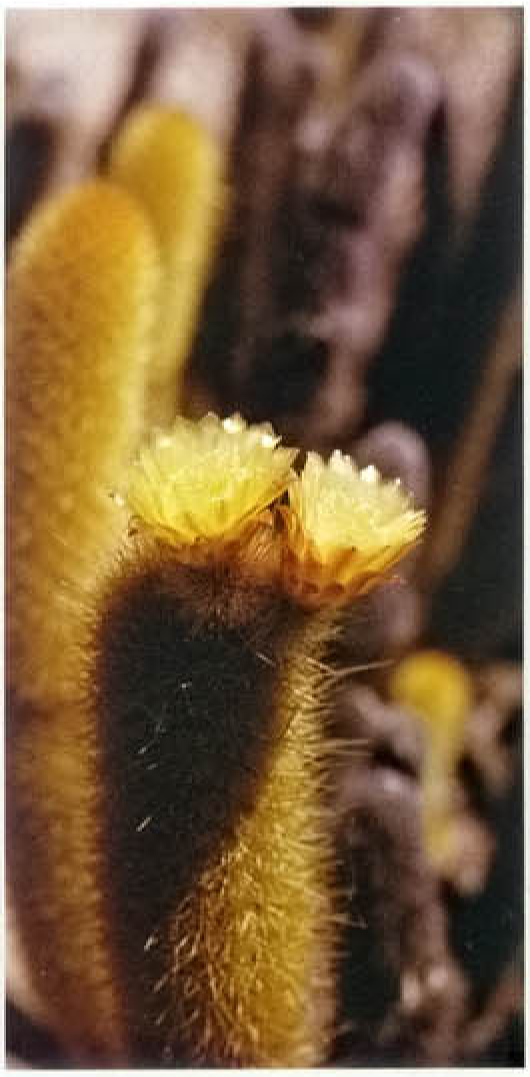
BERGEROCACTUS



BERGEROCACTUS EMORYI (Engelm.) Br. & R.
Syn: *Cereus emoryi* Engelm.; *Echinocereus emoryi* Rümpl.

A pale green bushy, columnar plant with stems 8in–2ft long, 1–2½in thick, offsetting from the base, with 14–20 or more low ribs. The areoles are fairly closely set, each with 10–30 golden-yellow spines, including one to four centrals. Flowers are diurnal, in summer, growing from the tips of the stems, ¾–1½in long and across, and are bright yellow. A sunny position is essential; needs normal cactus compost; minimum temperature 50°F. *USA (California), Mexico.*

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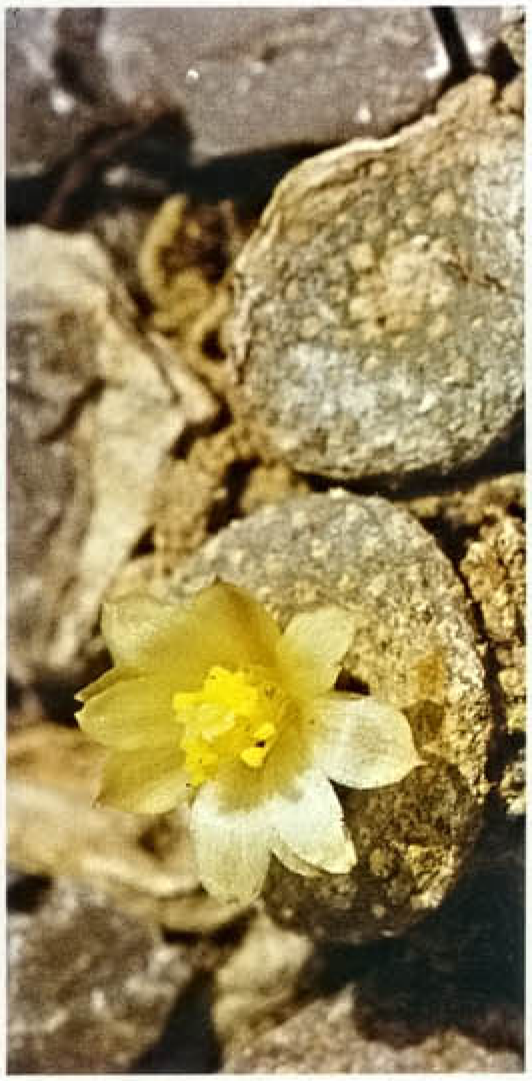
BLOSSFELDIA



BLOSSFELDIA LILIPUTANA Werd.
Syn: *Parodia liliputana* (Werd.) N. P. Taylor

A very small, grayish-green globular plant about ½in in diameter. There are no ribs and no spines. Flowers are diurnal in mid-summer, whitish yellow, and up to ½in wide when fully open. Best grafted onto robust stock. Requires very bright light; normal cactus compost; minimum temperature 55°F. *Argentina, Bolivia.*

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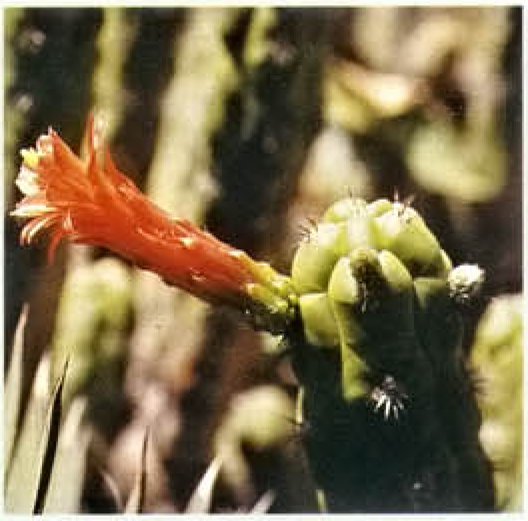
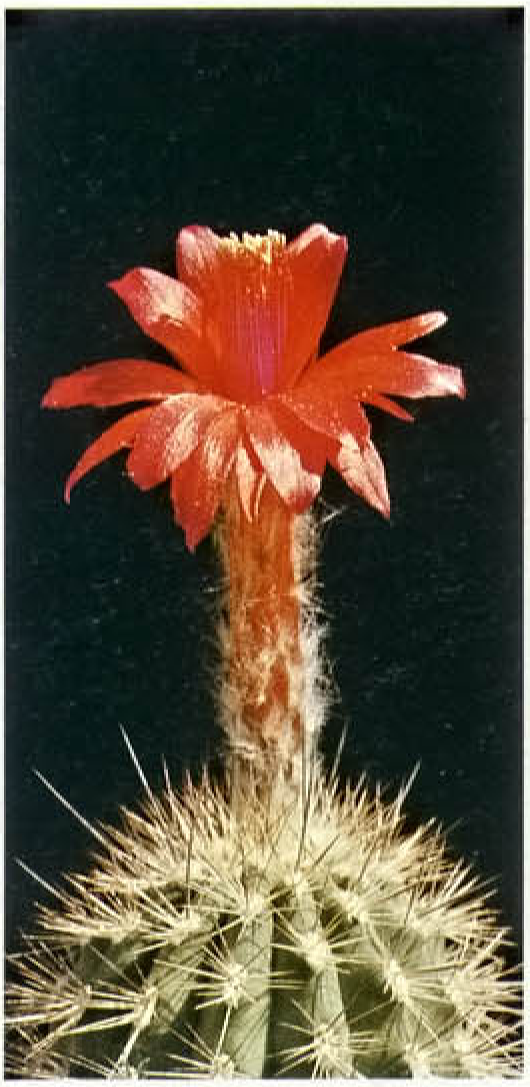
BORZICACTUS **FIELDIANUS** Br. & R.
Syn: *Clistanthocereus fieldianus* (Br. & R.) Backeb.

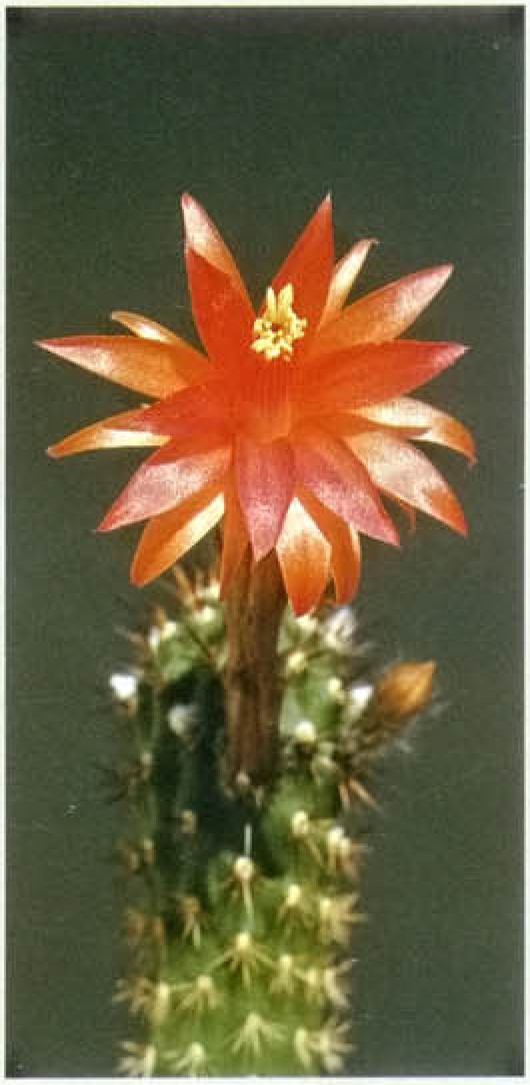
Erect or semi-prostrate plants with stems 10–20ft in length, branching from the base, and six to seven ribs with large areoles notched between. Spines are white, six to ten in number, varying in size to about 1½in long. Day flowering in summer; the flowers are red, 2½–3in long. Needs slight shade; normal cactus compost; minimum temperature 50°F. *Peru (Huaraz).*





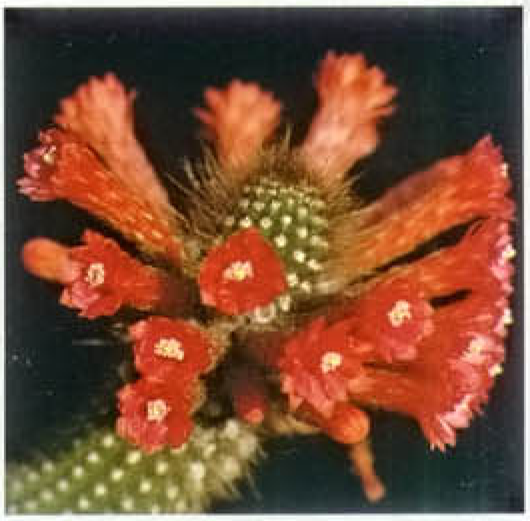
BORZICACTUS **LEUCOTRICHUS** (Phil.) Kimnach.
Syn: *Arequipa leucotricha* (Phil.) Br. & R.

A short, columnar species to about 2ft high. The stem is about 4in thick, grayish green, with yellowish wool at the tips and about 20 prominent, bumpy ribs. The white areoles have eight to twelve yellow radial spines up to 1in long and three to four reddish-brown centrals to 1¾in in length. It is summer flowering and diurnal; the flowers are bright scarlet, up to 3in long, 1¼in across. Needs sun; normal cactus compost with added grit; minimum temperature 50°F. *Chile (Tarapaca).*



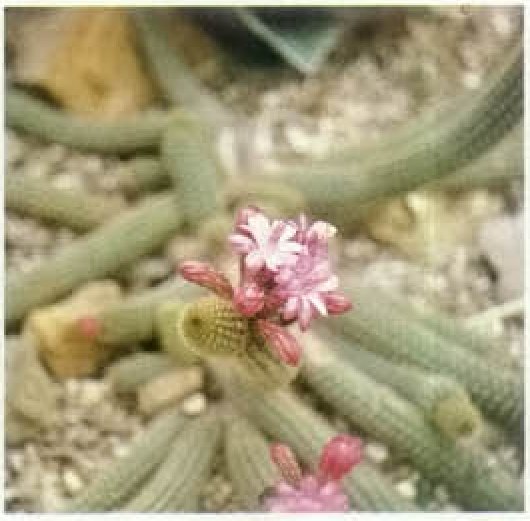
BORZICACTUS **NANUS** (Akers)
Syn: *Loxanthocereus nanus* (Akers) Backeb.; *Maritimocereus nana* Akers

A species which apparently belongs to this genus, but is not yet reclassified. It is low growing with a short stem of about 4in, and 12–14 ribs. The whitish areoles bear about eight pale brownish radial spines to ½in long, and one to three centrals of similar length. Flowers are zygomorphic, deep scarlet-orange, and are diurnal, in summer. Requires sun; normal cactus compost; minimum temperature 55°F. *Southern Peru.*



BORZICACTUS **ROEZLII** Backeb.
Syn: *Seticereus roezlii* (Haage Jr.) Backeb.

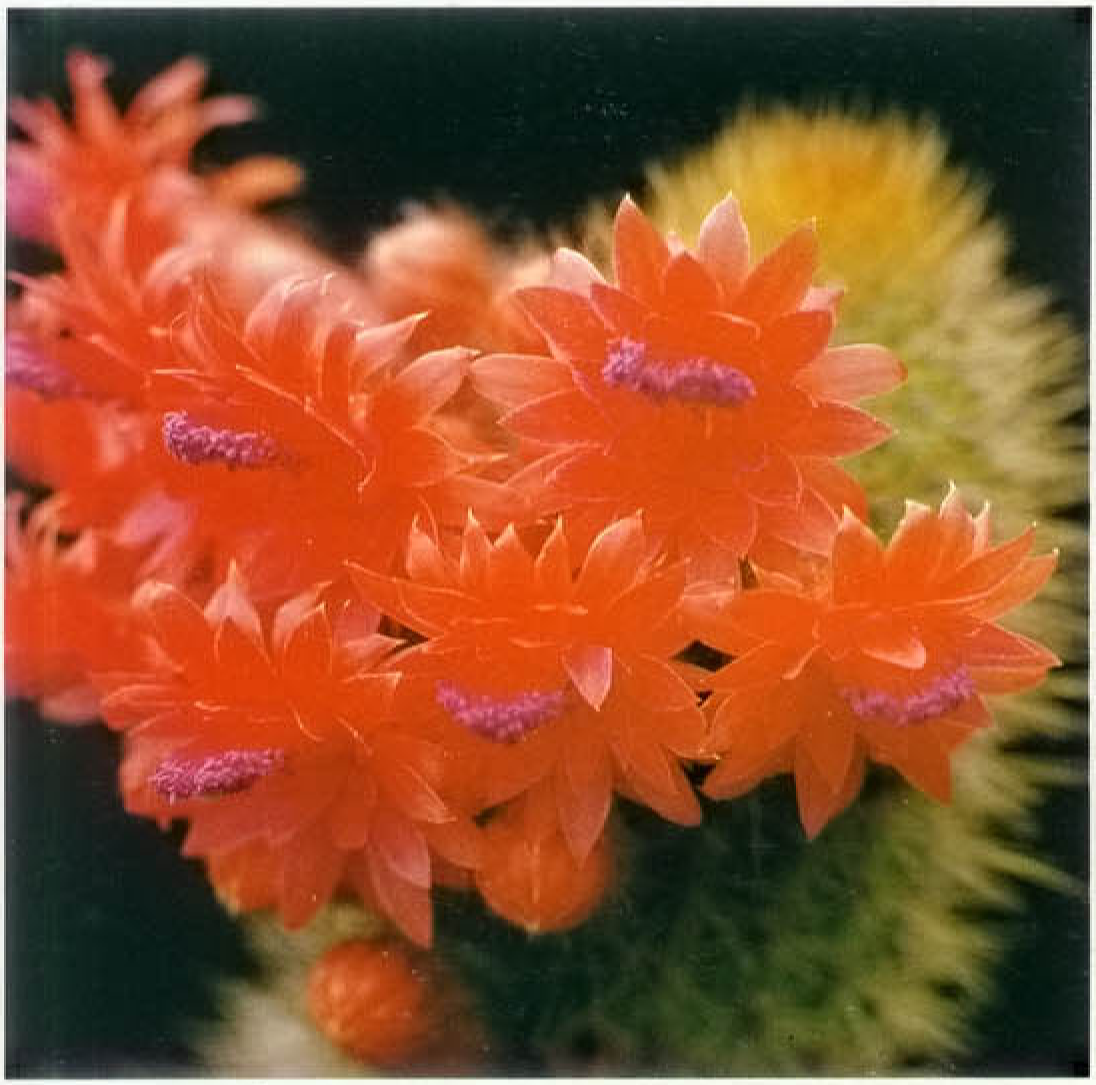
Columnar, grayish green, and 3–6½ft high, about 3in thick. Seven to fourteen ribs, notched above each areole. Areoles are yellowish with nine to fourteen brownish radial spines to ½in long, and one grayish central ½–1½in in length. The tips of the stems are covered with tufts of bristles through which flowers appear in summer. These are diurnal, tubular, red, 2½–3in long. Bright light essential; normal cactus compost; minimum temperature 55°F. *Northern Peru.*



BORZICACTUS **ROSEIFLORUS** (Buin.) Kimnach
Syn: *Akersia roseiflora* Buin.

A low, spreading plant with rather trailing, 1½–2in thick pale green stems to 3ft long, and 16–17 low ribs. Spines are yellowish, 30–40 in number, about ½in long, but longer in the flowering area. Day flowering in summer; the flowers are lilac pink, about 2in long, 1in across. Needs full sun; normal cactus compost; minimum temperature 50°F. *Northern Peru.*

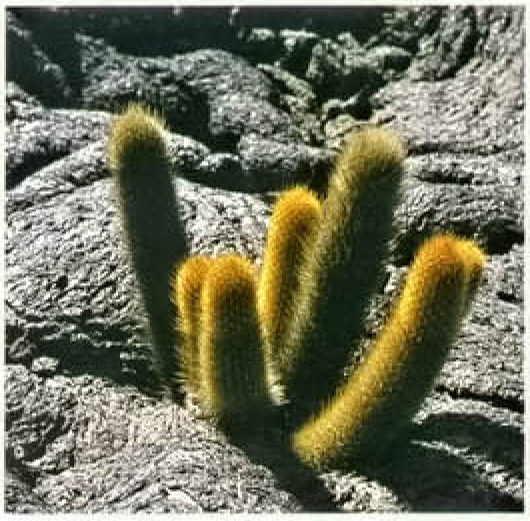
BORZICACTUS



BORZICACTUS **SAMAIPATANUS** Card.
Syn: *Bolivicereus samaipatanus* Card.;
Cleistocactus samaipatanus (Card.)
D. R. Hunt

An erect, later pendant plant with bright green stems to 4ft 8in long, 1–2in thick, and 14–16 ribs. The areoles are brownish, set ⅛in apart and bearing 13–22 slender yellowish-brown spines from ⅛in to about 1in in length. Day flowering in summer, the flowers are tubular, curved, and 1½–2½in long; deep red with paler edges. Requires sun; normal cactus compost; minimum temperature 50°F. *Bolivia (Santa Cruz).*

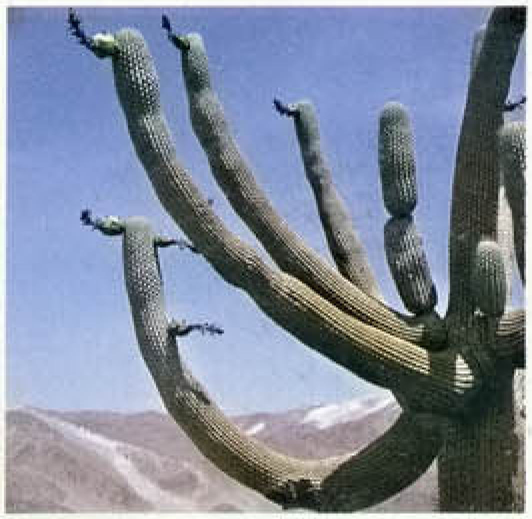
BRACHYCEREUS

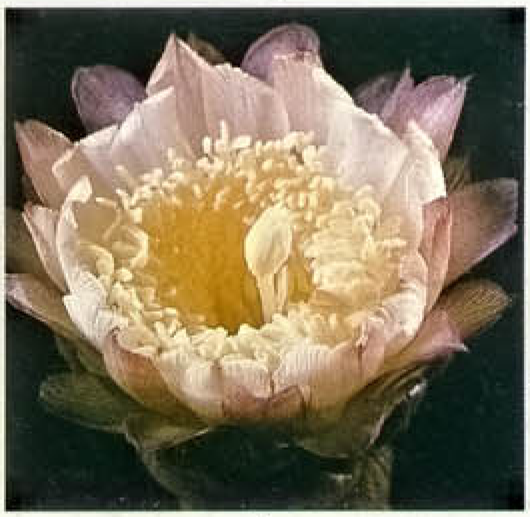


BRACHYCEREUS **NESIOTICUS** (K. Sch.)
Backeb.

Rather short, columnar, clustering plants. The stems are 1–2ft in length, greenish, with dense spines which are initially yellowish brown, becoming gray. There are 13–16 ribs with pale brownish areoles ⅛in wide, each bearing around 40 or more spines up to 1in long. It is nocturnal flowering in summer. The flowers are borne from the sides of the stems and are 1½–2½in long, ¾–1in in diameter with narrow, white petals. Needs full sun; slightly calcareous compost; minimum temperature 59°F. *Galapagos Islands.*

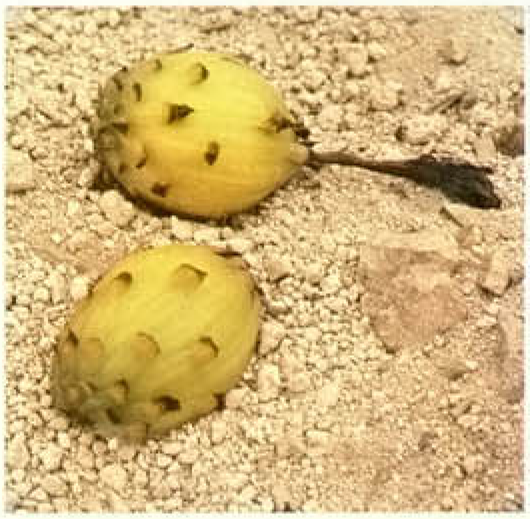
BROWNINGIA

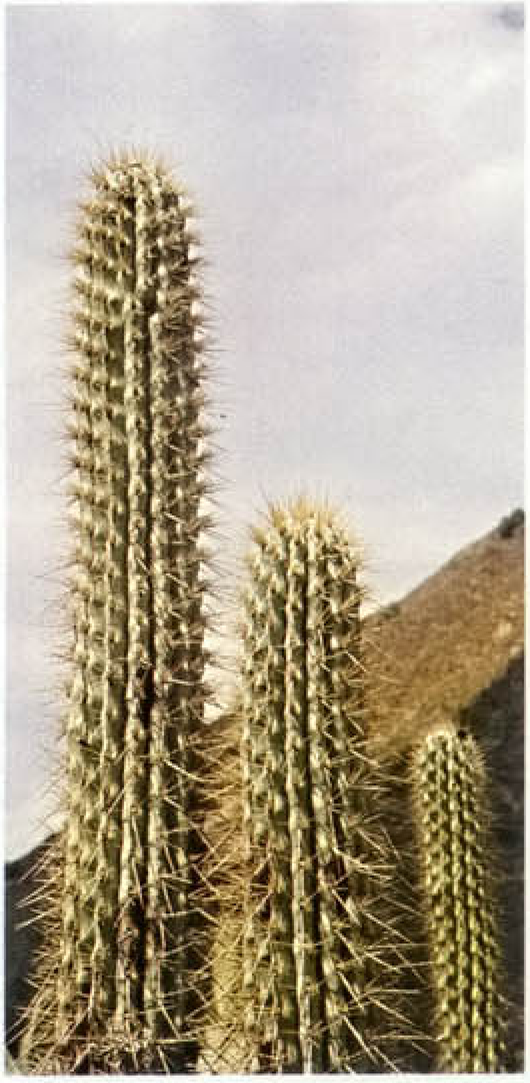


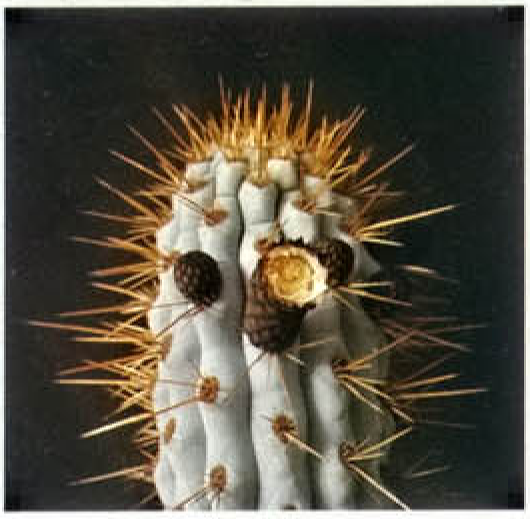


BROWNINGIA **CANDELARIS** (Meyen)
Br. & R.

A tree-like, columnar species to 15ft high with a base of about 1½ft in diameter, branching from above. Mature branches develop about 50 ribs. Areoles are closely set, bearing 20 or more yellowish-brown spines up to ½in long. The main trunk produces spines 4–6in in length. Flowers are nocturnal in summer, tubular and 3¼–4¾in in length. The inner petals are whitish, the outer segments darkish pink. The oval fruits are about 3in long. Requires bright light; normal cactus compost; minimum temperature 55°F. *Southern Peru, Northern Chile.*

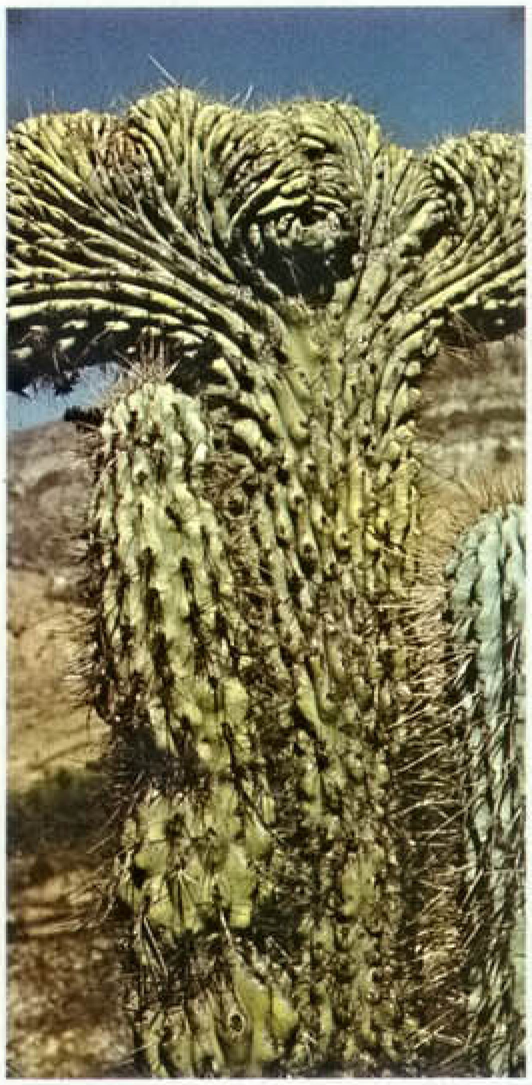






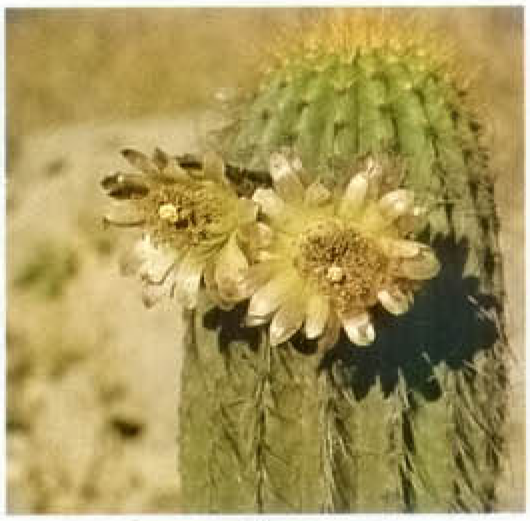
BROWNINGIA **HERTLINGIANA** (Backeb.) Buxb.
Syn: *Azureocereus hertlingianus* (Backeb.) Backeb.; *Azureocereus nobilis* Akers

Columnar, bluish green, to 26ft tall, 1ft wide. The 18 or more ribs have prominent areoles, gray-felted, with four to seven radial spines, and up to three centrals about 3¼in long. As plants mature, more spines develop; yellowish gray with brown tips. Flowers in summer, nocturnal; inner petals white, purplish externally, about 2in wide. Needs a bright position; normal cactus compost with a little lime; minimum temperature 55°F *Peru (Mantaro Valley).*



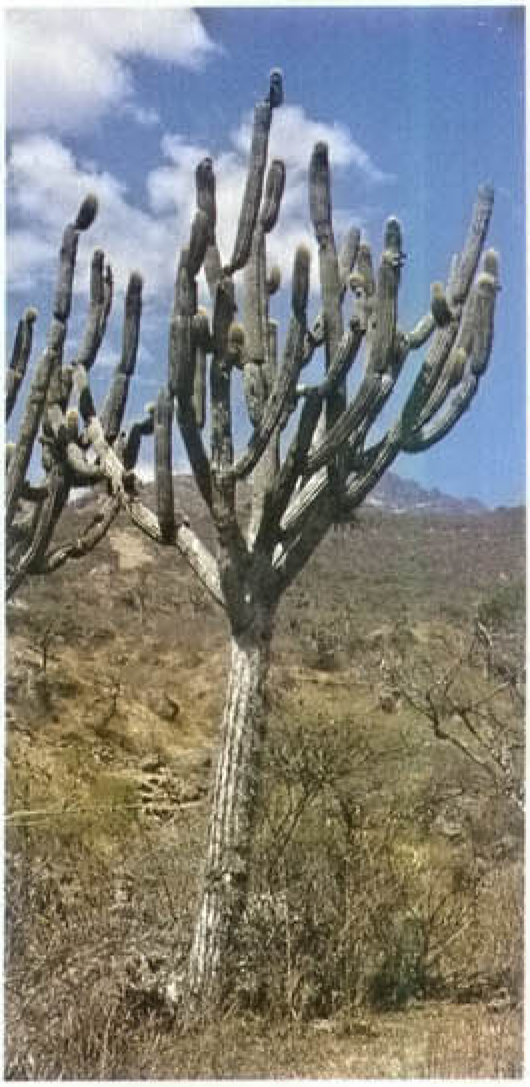
BROWNINGIA **HERTLINGIANA** (Backeb.) Buxb. fma. 'Monstrosus'

An interesting malformed feature occurs on many cacti, and invariably this is most spectacular, especially when it is seen in the wild.

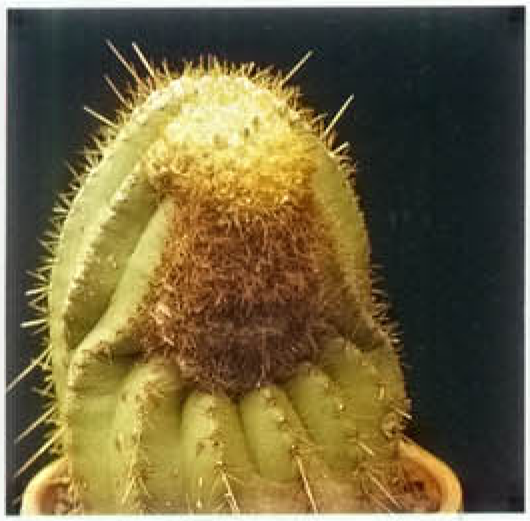


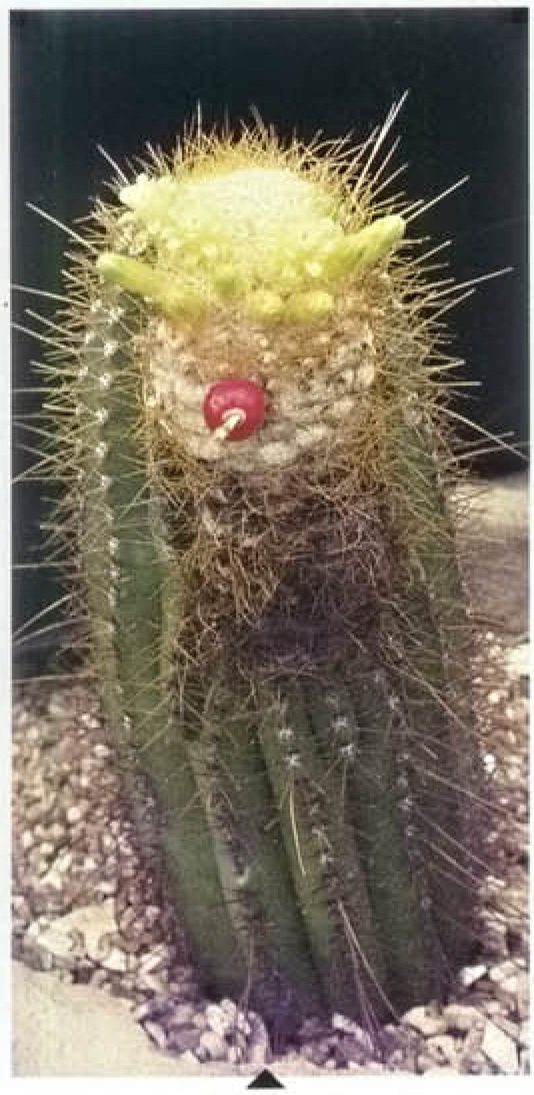
BROWNINGIA **MICROSPERMA** (Werd. & Backeb.) Borg
Syn: *Gymnocereus microspermus* (Werd. & Backeb.) Backeb.

A tree-like columnar plant to about 20ft high and about 1ft in diameter. The branches have 12–20 rounded ribs, about ¼in high. Areoles are about ¼in apart, yellowish, bearing numerous yellowish-brown or reddish-brown spines from ¼in to ¾in in length. Flowers are 1–1½in long and across, white with brownish-red sepals. Flowers in summer, nocturnal. Needs sun; normal cactus compost; minimum temperature 55°F. *Northern Peru.*



BUININGIA





BUININGIA AUREA (Ritter) Buxb.
Syn: *Coleocephalocereus aureus* Ritter

A short, columnar plant to about 2ft tall in the wild, branching freely from the base to form clumps. Individual stems are 3–4in thick, dull green, with 10–16 ribs, and golden-yellow spines consisting of 10–15 radials 2–3in long, and one to four centrals ½–¾in in length. A pseudocephalium develops laterally which is composed of white wool and yellow bristles from which flowers appear. These are nocturnal, occurring in summer, pale yellowish-green in color, and very small. Requires full sun; normal cactus compost; minimum temperature 55°F. *Brazil (Minas Gerais).*

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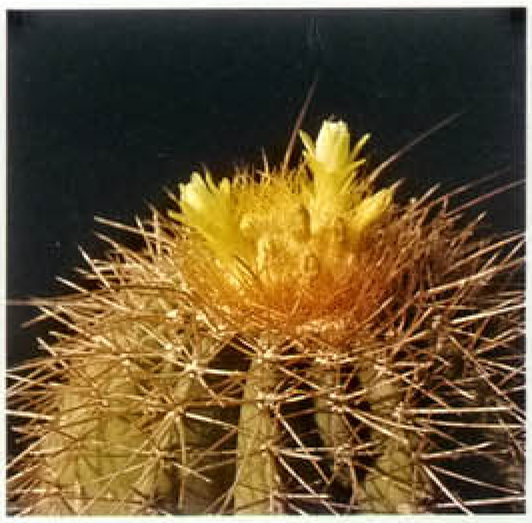

BUININGIA BREVICYLINDRICA Buin.
Syn: *Coleocephalocereus brevicylindricus* (Buin.) Ritter

Globular at first, the plant later becomes short and cylindrical, often clustering around the base. Stems are deep green, about 6½in in diameter, eventually up to 1ft tall, and have 12–18 ribs. Areoles are whitish, bearing about seven yellowish-gray radial spines ½–1in long, and usually four straight or slightly curved yellowish centrals, the lower ones up to 2½in in length, the others ¾–1in long. The semi-terminal cephalium of white wool and yellowish bristly spines is about 3¼in in diameter with creamy-yellow tubular flowers about 1in long, ⅔in wide, protruding in summer; these are nocturnal. Needs sun; an enriched mineral compost; minimum temperature 59°F. *Brazil (Minas Gerais).*

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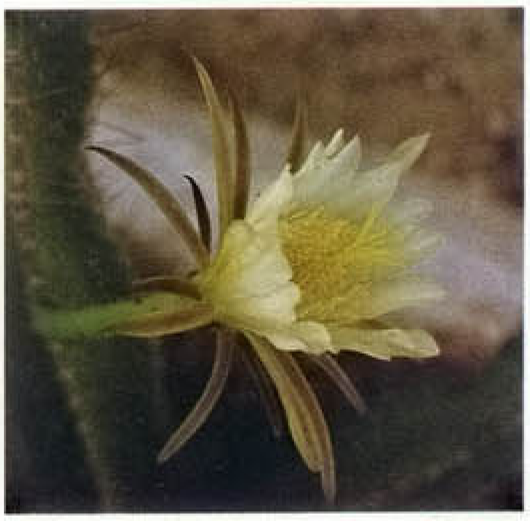
CALYMMANTHIUM

C



CALYMMANTHIUM SUBSTERILE Ritter

A tree-like, bushy, columnar plant to about 26ft tall in the wild. The stems are pale green, 1½–3¼in thick, and have three to four ribs. Areoles are whitish, bearing three to eight radial spines to ½in in length, and one to six centrals, ⅔in long, all white. Flowers are nocturnal, occurring in summer. The buds initially appear as small shoots, then open to a white flower 3½–4½in long and 1–2in across, with reddish-brown outer petals. Requires bright light; normal cactus compost; minimum temperature 55°F. *Peru (Jaen).*

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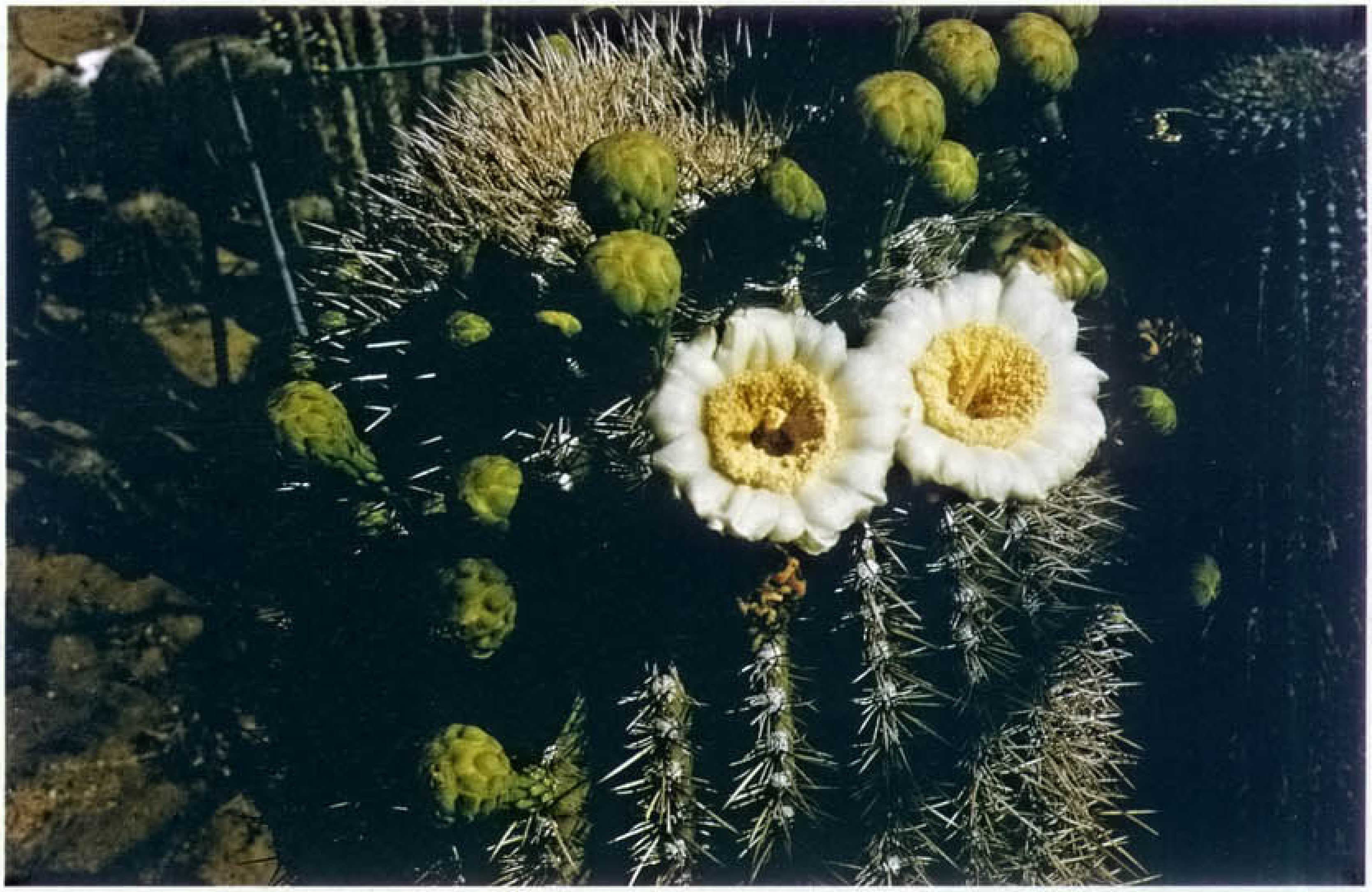
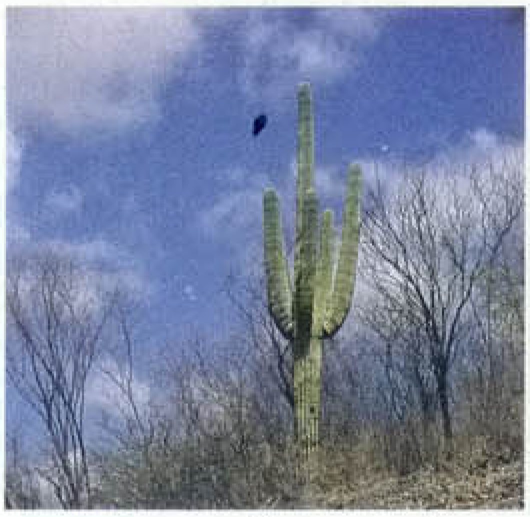
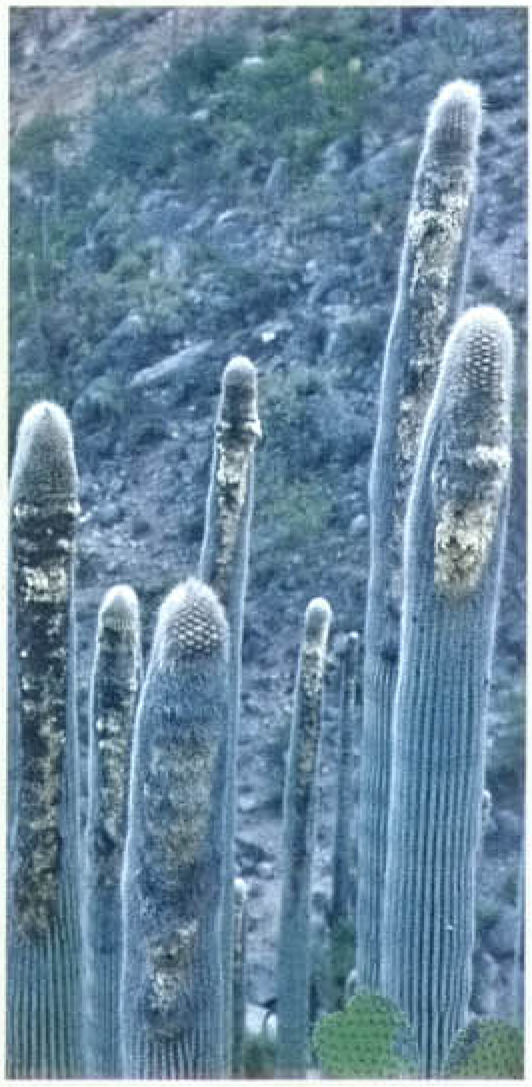




CARNEGIEA **GIGANTEA** (Engelm.) Br. & R.

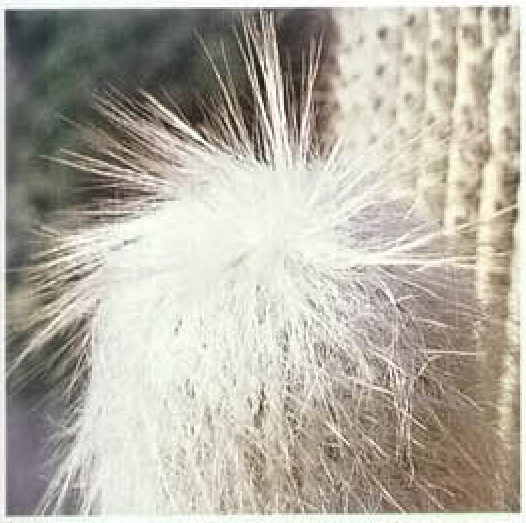
The celebrated "Saguaro" of the Arizona desert. An erect, dark-green, tree-like giant, to about 46ft tall, 2ft t[illegible]here are 12–24 ribs with areoles abou[illegible] apart bearing 12 or more brownish-gray radial spines ½–¾in in length, and three to six thicker, brownish centrals 3in long. Flowers are nocturnal, appearing in early summer from the end of the branches; the inner petals are white, greenish externally, about 4¾in long and across. The plant is slow growing. Requires full sun; normal cactus compost; minimum temperature 50°F. *USA (Arizona, California), Mexico (Sonora).*

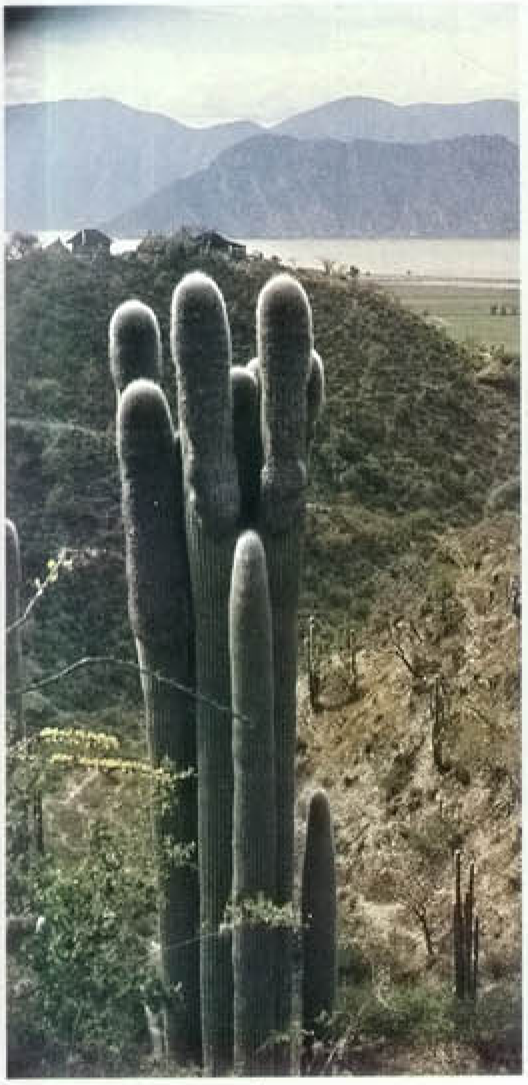


CEPHALOCEREUS **HOPPENSTEDTII** (Weber) K. Sch.
Syn: *Haseltonia columna-trajani* (Karw.) Backeb.

Columnar, unbranched, 20–33ft high to 1ft thick in middle, grayish green. About 16 ribs bear areoles ⅛in apart, with 14–18 whitish radial spines to ½in long and five to eight centrals to 3¼in. Flowers appear in summer from near top of stems, through the whitish wool and yellowish spines of the pseudocephalium. They are nocturnal, white or pale yellow. Needs full sun; calcareous cactus compost; minimum temperature 55°F. *Mexico (Oaxaca).*

CEPHALOCEREUS

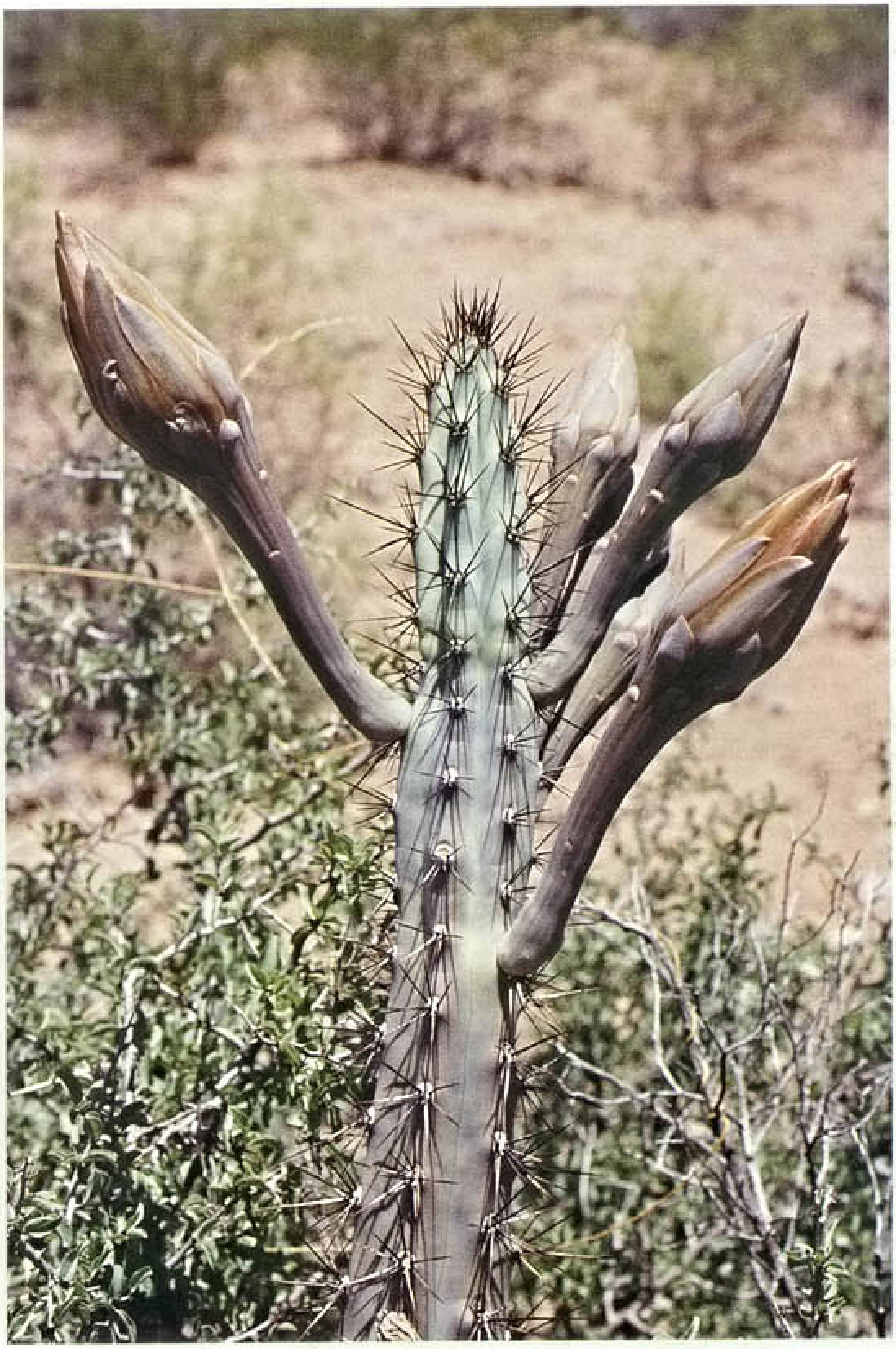




CEPHALOCEREUS **SENILIS** (Haw.) Pfeiff.
Syn: *Cereus senilis* DC.

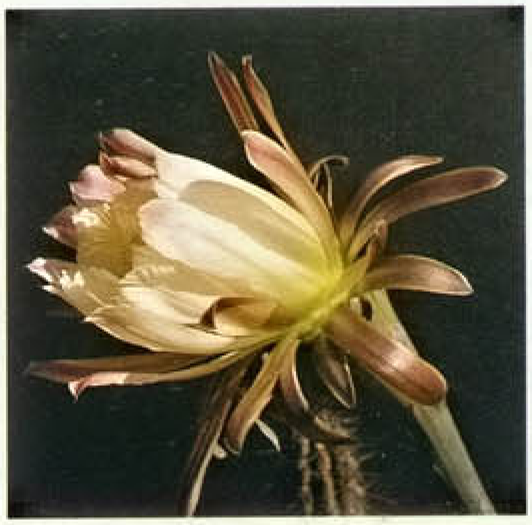
Known as the "Old Man Cactus." A columnar plant frequently branching from the base, it reaches to 49ft tall and 1ft 4in thick. 12-30 ribs are low and rounded, with close-set areoles bearing 20–30 hair-like white radial spines 2½–4¾in long, and one to five central spines ½–2in in length. A cephalium forms in maturity, which produces whitish-yellow flowers about 3¼in long, 3in across. These are nocturnal, in summer. Requires full sun; normal cactus compost with a little lime; minimum temperature 55°F. *Mexico (Hidalgo, Guanajuato).*

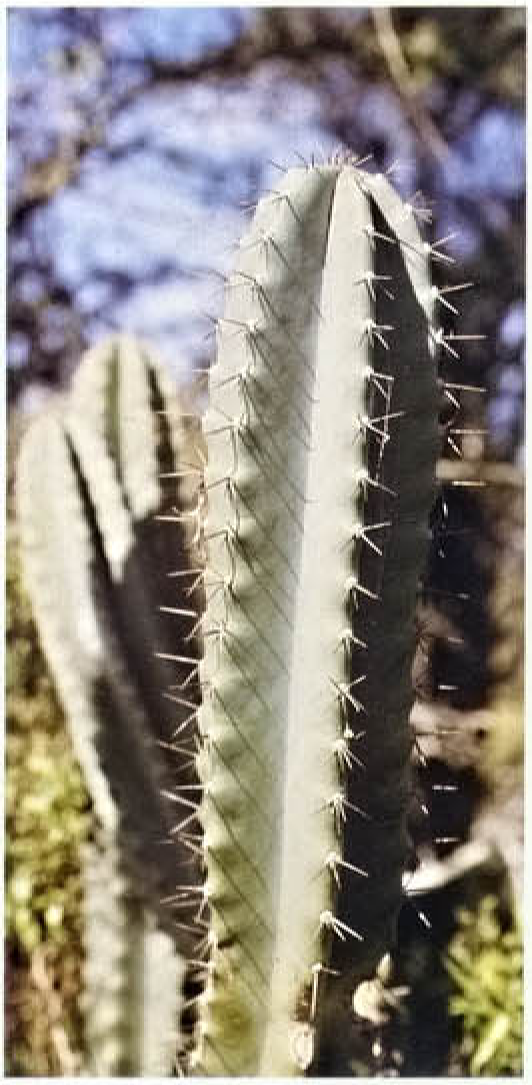
CEREUS

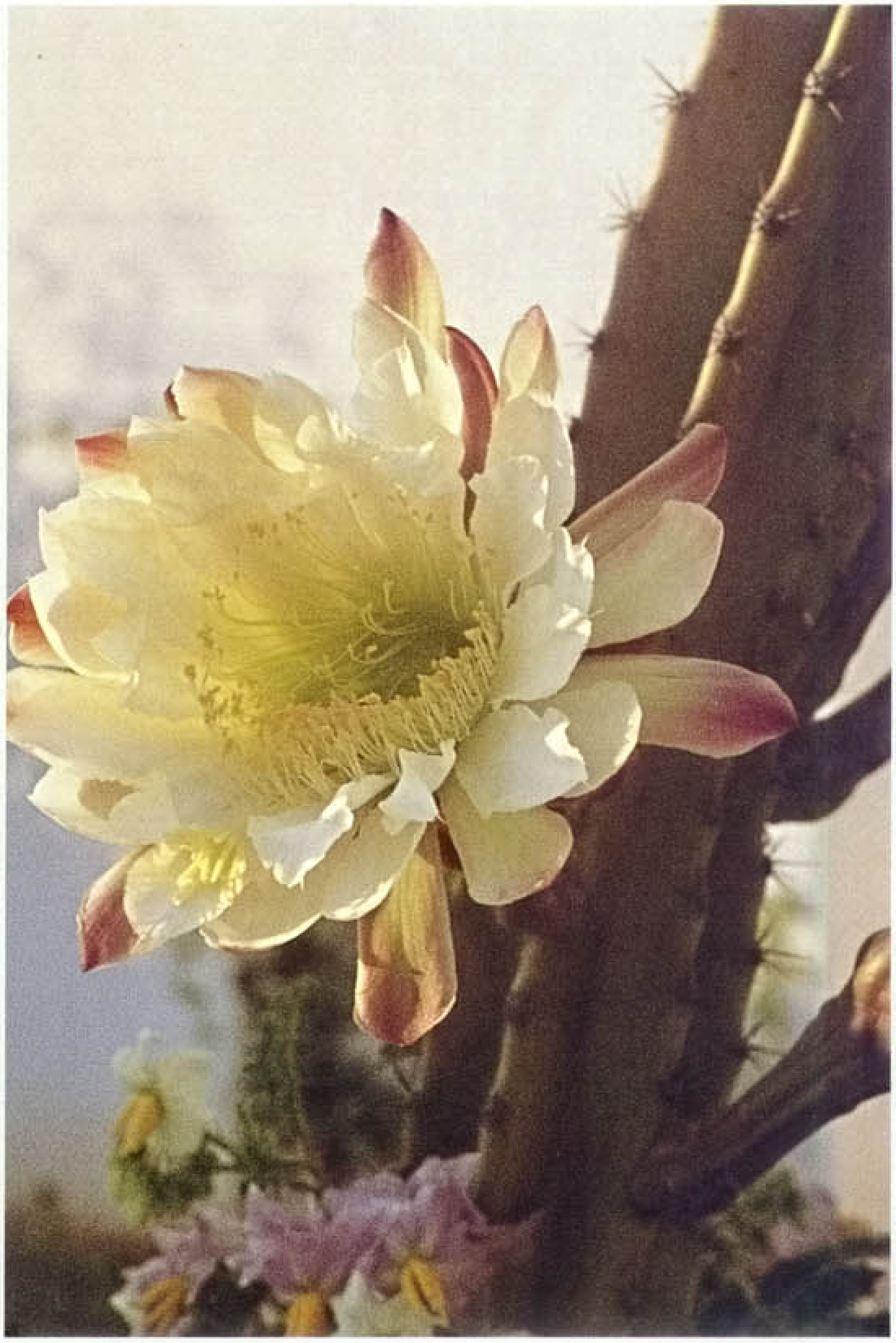


CEREUS **AETHIOPS** Haw.
Syn: *Cereus coerulescens* Salm-Dyck

An erect, rarely branching, columnar plant to 6½ft tall, 1–1½in in diameter, dark bluish later becoming dark green, with eight ribs bearing small warts. Areoles are about ⅔in apart and are almost black, with nine to twelve usually black radial spines to ⅖in long and two to four black centrals up to ¾in in length. The flowers, up to 8in long, with white or pale pink inner petals and greenish-brown outer petals, are nocturnal, appearing in summer. Requires normal cactus compost; bright light; minimum temperature 50°F. *Argentina (Mendoza).*





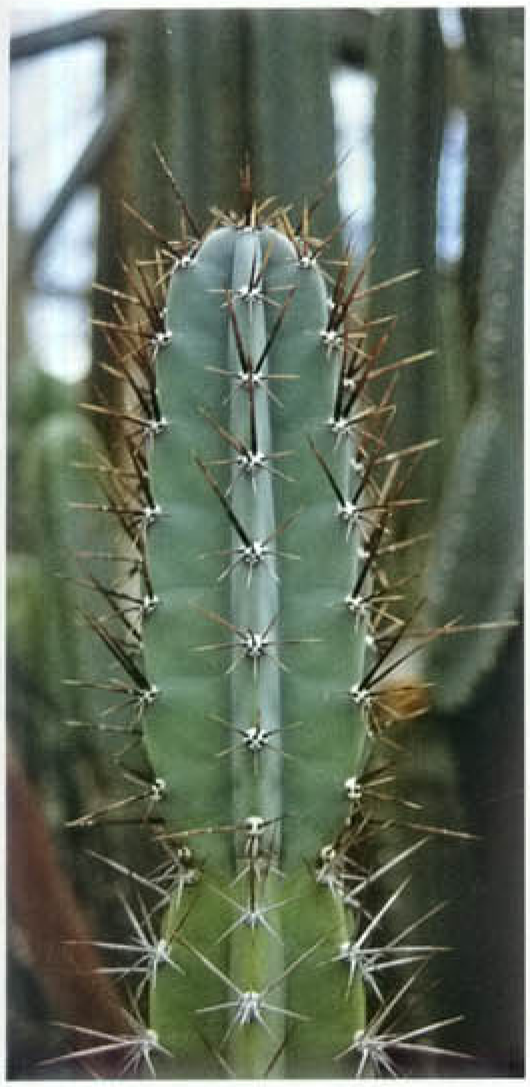


CEREUS **ARGENTINENSIS** Br. & R.

A much-branching columnar plant to 39ft high. The branches are 4–6in thick and a pale bluish green. There are four to five ribs to 2in high which are broadly furrowed, and five to eight brownish radial spines up to 2in in length, with one or two centrals to 4in long. The funnel-shaped flowers are about 8½in long, with white inner petals and green outer petals tinged red. These are nocturnal appearing in summer. Needs a sunny position; normal cactus compost; minimum temperature 50°F. *Argentina (Chaco).*

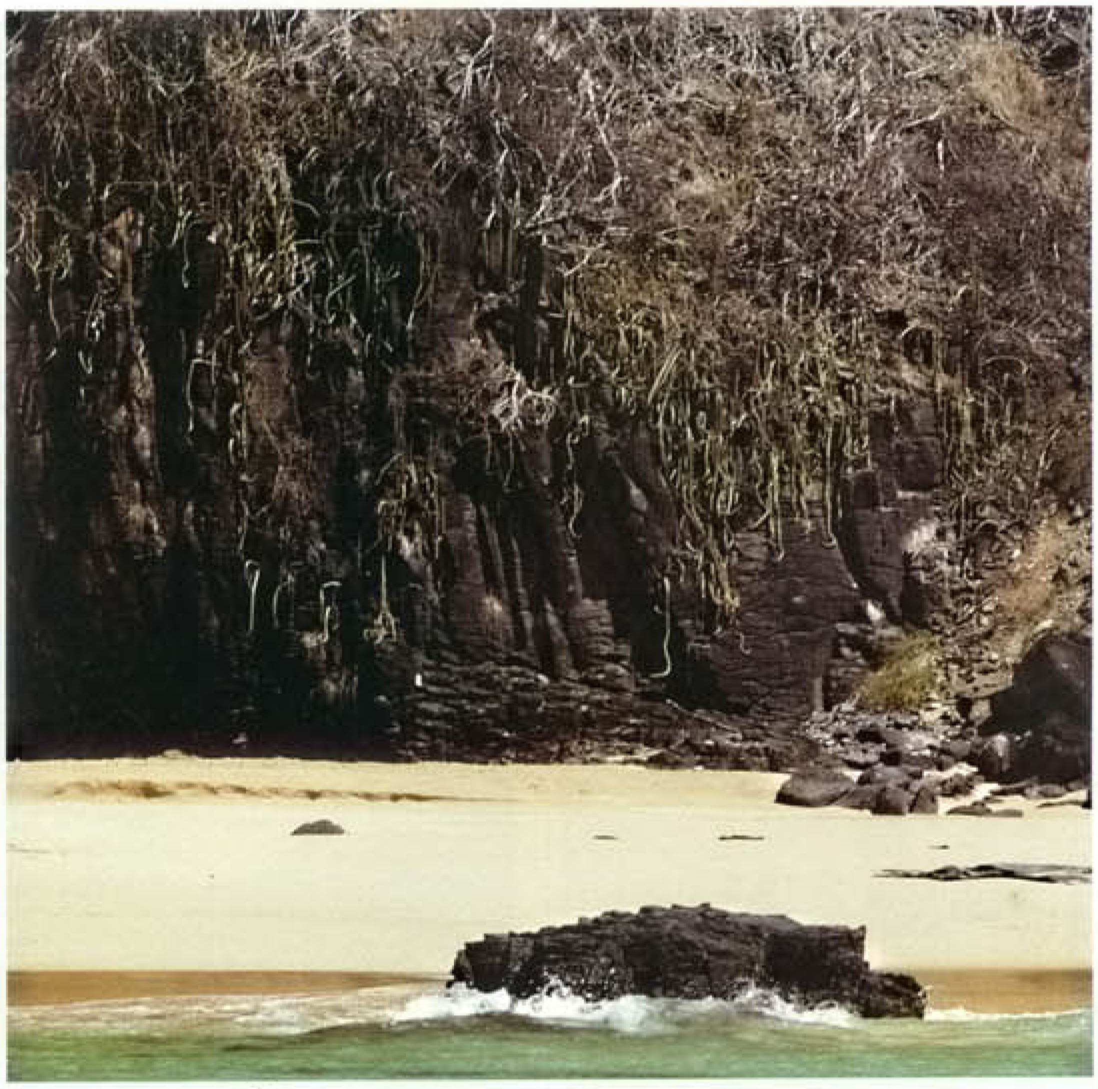
CEREUS **CHALYBAEUS** Otto

A tall, columnar plant to 9ft 8in high with few branches 2–4in thick, bluish to dark green in color. There are five to six ribs with areoles set about ¾in apart bearing seven to nine blackish radial spines to ⅔in long and three to four similarly colored centrals slightly longer. Flowering in summer, the flowers are white, reddish externally, to 8in long, and are nocturnal. Requires full sun; normal cactus compost; minimum temperature 50°F. *Brazil, Argentina.*



CEREUS **FORBESII** Otto

A columnar species, frequently branching with erect branches, reaching up to 13ft high in its habitat; the dull bluish-green branches are 3–4¾in thick. Ribs usually number six and are often notched with large areoles set about 1in apart, bearing five to seven radial spines ½–¾in long, and one or two centrals up to 2in in length. These are all yellowish brown, awl-shaped, with blackish bases. Nocturnal flowering in summer, the flowers are about 2½in long, trumpet-shaped, and white. Requires bright light; normal cactus compost; minimum temperature 55°F. *Argentina.*

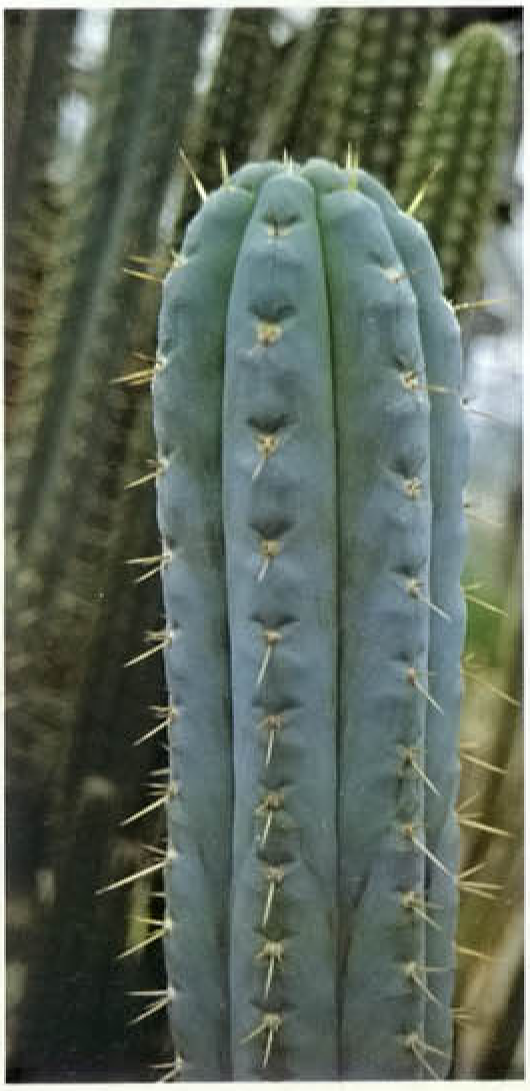


CEREUS **INSULARIS** Hemsl.
Syn: *Monvillea insularis* (Hemsl.) Br. & R.

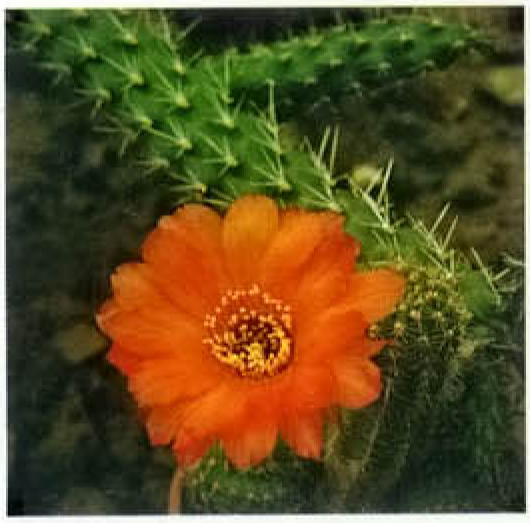
A much-branching, usually trailing plant, the stems are about 1in thick, deep green. Ribs are straight, six to eight in number with fairly close-set gray areoles bearing 12–15 slender, brownish-yellow to grayish-brown spines to ½in in length. Flowers are yellow, about 4¾–6in long, and are nocturnal, appearing in summer. Needs slight shade; normal cactus compost, kept slightly moist throughout the year; minimum temperature 59°F. *Northern Brazil (St. Michael's Island).*

CEREUS **PERUVIANUS** (L.) Mill.

A tall, columnar, branching species, 9ft 8in–15ft tall, 4–10in thick, bluish to dull green. It has five to eight ribs, acutely furrowed, and the areoles are brown, about ¾in apart, bearing four to seven brown radial spines ½in long with one reddish-brown central ¾in long. Nocturnal flowers appear in summer; these are white with greenish-brown outer petals, about 6in long. Requires bright light; normal cactus compost; minimum temperature 50°F. *Argentina, Brazil (very uncertain).*

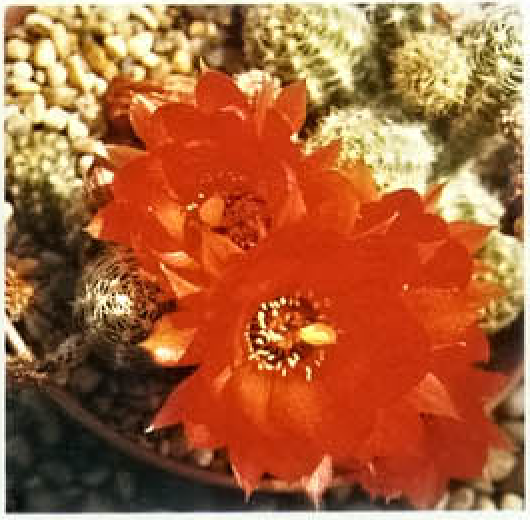


CHAMAELOBIVIA



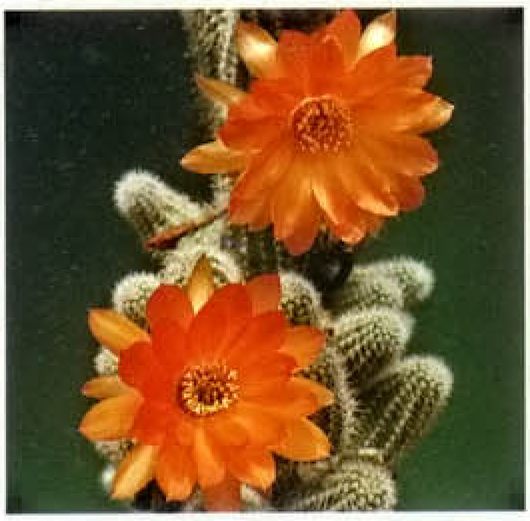
CHAMAELOBIVIA **'Calvini'**

A cultivar of *Chamaecereus (Lobivia) silvestrii* and a color form of *L. jajoiana* reputed to have been developed in Holland. Flowering early to mid-summer, it is diurnal. Needs good light; normal cactus compost; minimum temperature 50°F.



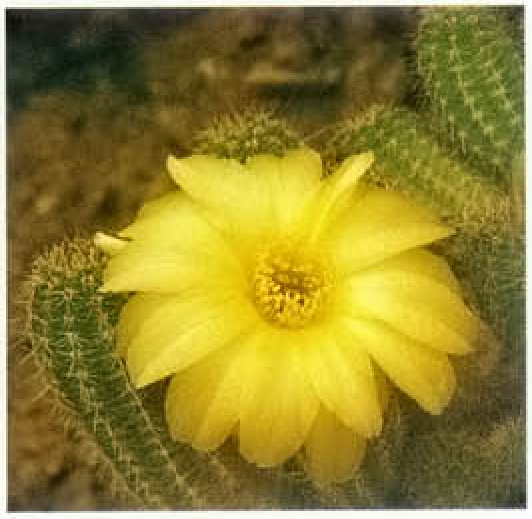
CHAMAELOBIVIA **'Joanne'**

A brilliantly colored cultivar of *Lobivia (Chamaecereus) silvestrii* and *Lobivia jajoiana*. The "peanut"-like stems of the first parent are more stunted, but the vivid flower clearly depicts the other parent, *L. jajoiana*. Flowering in mid-summer, it is diurnal. Needs good light; normal cactus compost; minimum temperature 50°F.



CHAMAELOBIVIA **'Fire Chief'**

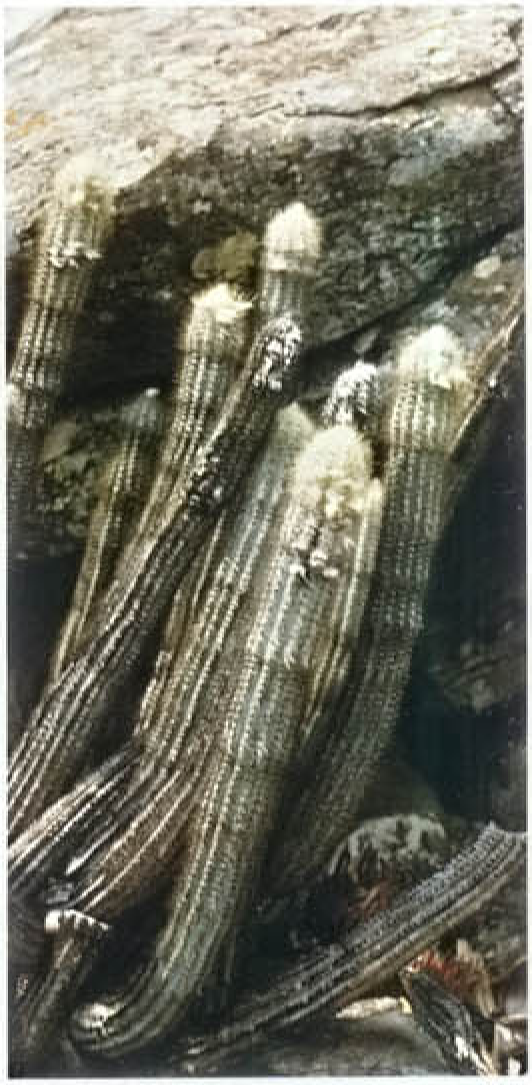
A colorful hybrid of *Lobivia* × *Echinopsis* × *Chamaecereus (Lobivia) silvestrii* developed by Harry Johnson of the USA. One of the most startling cultivars yet produced.



CHAMAELOBIVIA **'Yellow Flame'**

A hybrid between *Chamaecereus (Lobivia) silvestrii* and *Lobivia famatimensis* which was developed about 1945. The stems are similar to those of a typical "peanut cactus," the flowers reminiscent of the *L. famatimensis*. They appear by day, in summer. Requires bright light; normal cactus compost; minimum temperature 45°F.

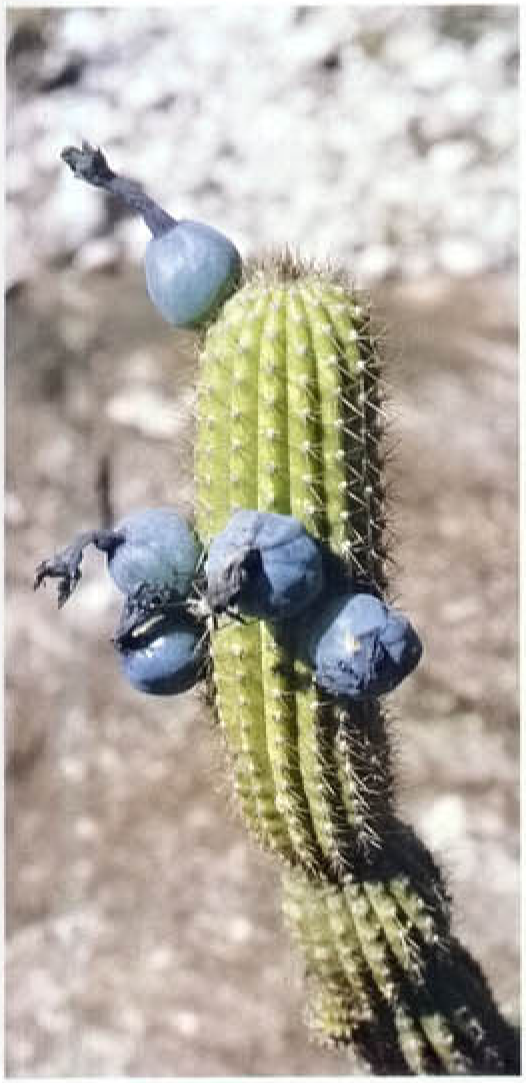
CIPOCEREUS



CIPOCEREUS **AURISETUS** (Werd.)

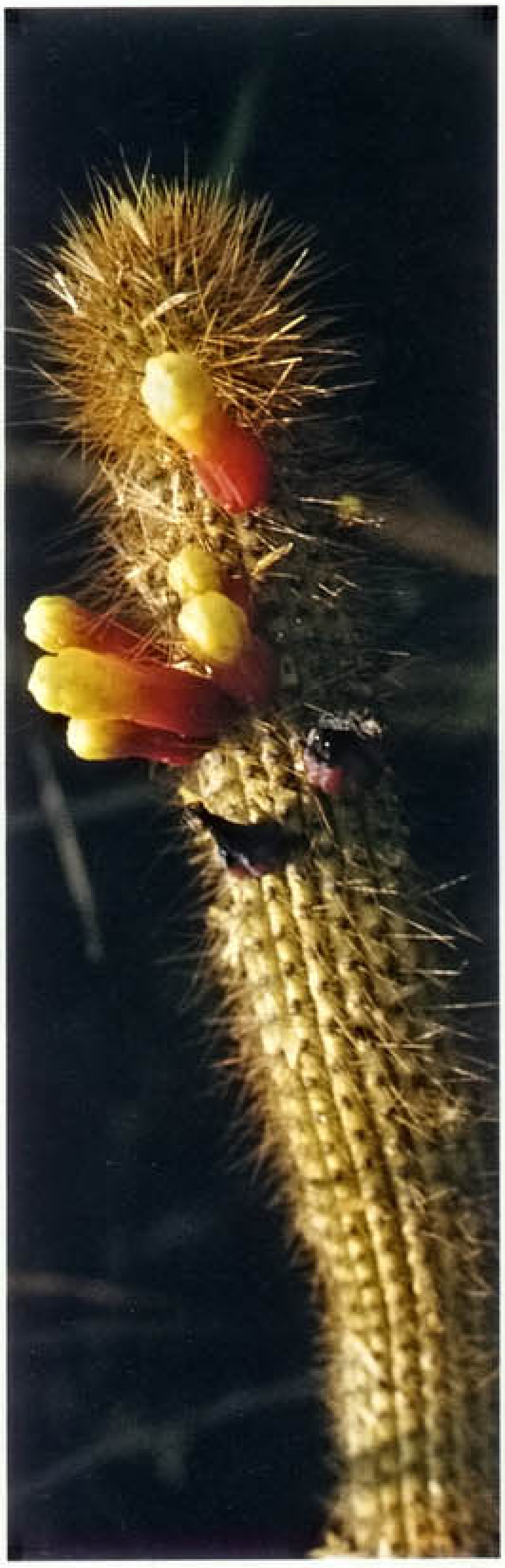
A short, bluish-green columnar plant to about 3ft tall, the stems about 2½in in diameter. This is a freely branching species having about 15 ribs with grayish-white areoles bearing numerous fine spines up to 1in long. Flowers are borne laterally from often elongated pseudocephaliums comprised of whitish wool and bristly yellow spines up to 2in in length. The flowers are whitish, about 2in long, nocturnal, and appear in summer. Requires sun; normal cactus compost; minimum temperature 55°F. *Brazil (Serra do Cipo).*

CIPOCEREUS



CIPOCEREUS **MENIENSIS** (Werd.) Ritter

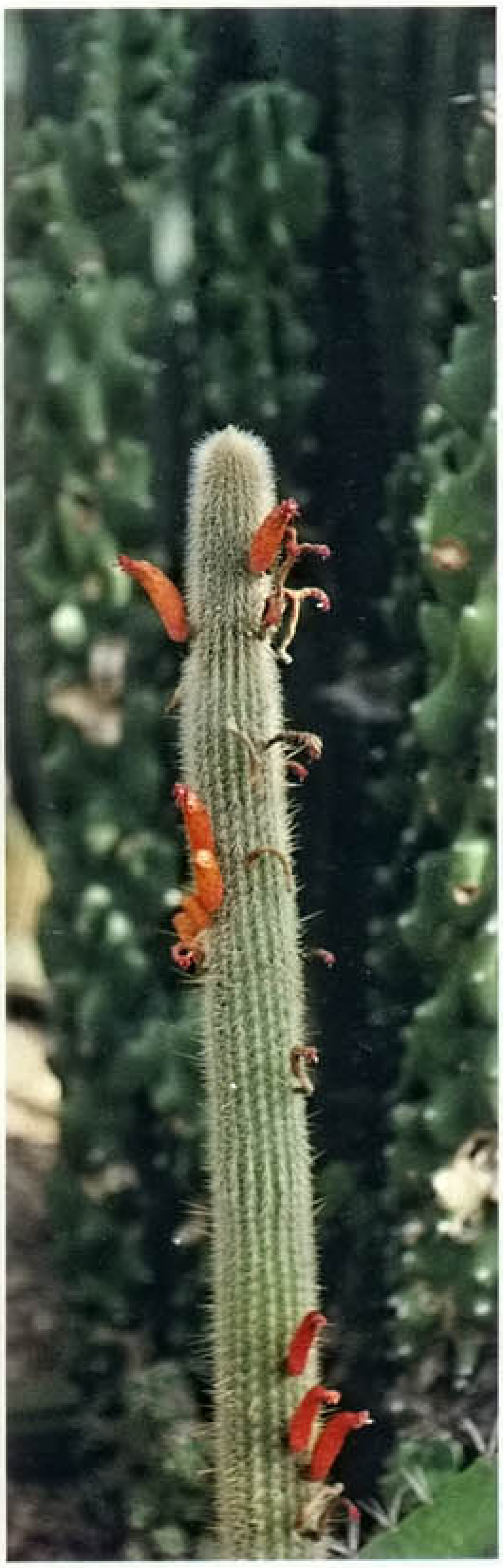
Also spelt *'minensis.'* Green columnar plants 3ft or more high, 2in in diameter, with 12 or more ribs. The areoles are round and white felted with grayish-white or yellowish spines, about 20 in all to ¾in long, one often longer to 1in. Flowers are produced laterally; greenish white in color and about 2in long, 1in across, they appear in mid-summer and are nocturnal. Carries blue fruit. Requires bright light; normal cactus compost; minimum temperature 55°F. *Brazil (Minas Gerais).*



CIPOCEREUS **PLEUROCARPUS** Ritter

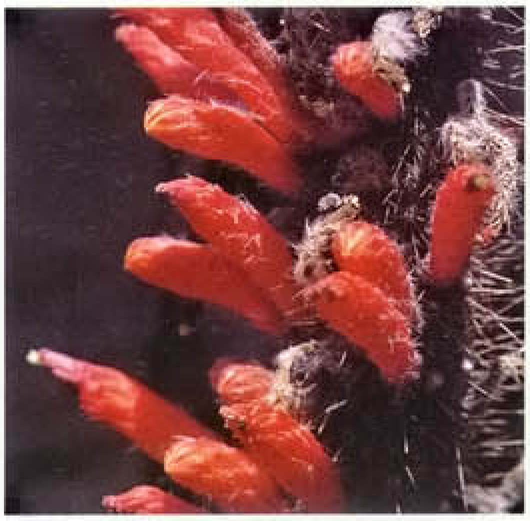
A fairly short, columnar plant about 1in in diameter, dull greenish, with 10–16 ribs ¹⁄₁₆–⅛in high. Areoles are brownish white bearing eight to eleven brown radial spines up to ½in length, and four or more prominent centrals up to 1in long. Night flowering in mid-summer, the creamy white flowers are produced laterally, about 2in long, and are slightly scented. Needs good light; normal cactus compost; minimum temperature 55°F. *Brazil (Serra do Cipo, Minas Gerais).*

CLEISTOCACTUS



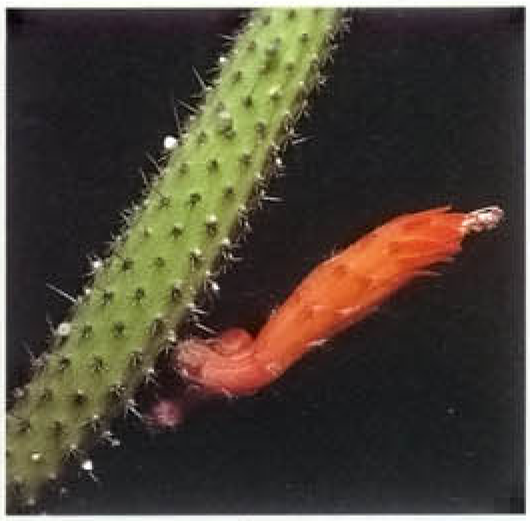
CLEISTOCACTUS **AZERENSIS** Card.

A slender columnar plant branching from the base. The stems are grayish green, about 1½in thick with about 23 straight ribs. Areoles are brownish with 16–24 whitish or pale yellowish spines about ⅛in in length. The flowers, diurnal in mid- to late summer, are violet red, somewhat tubular in shape, and are about 2in long to ⅓in in diameter. Needs good light; normal cactus compost; minimum temperature 50°F. *Bolivia (Chuquisaca).*



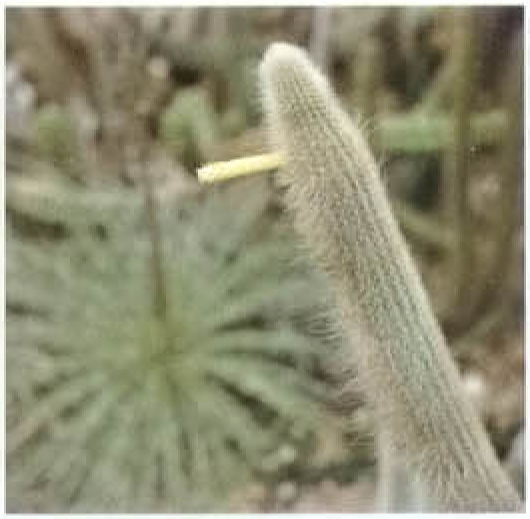
CLEISTOCACTUS **BAUMANNII** (Lem.) Lem.
Syn: *Cereus baumannii* Lem.

An erect columnar plant with stiff stems to 3ft high, 1–1½in thick. About 14 ribs have regularly placed areoles each with 15–20 yellowish-brown radial spines to ⅔in long and one longer central to 1in, yellowish or dark brown. A day-flowering species in summer, the flowers are brilliant red or orange-red, 2½–3in long, curved, with reddish stamens just protruding. Requires sunshine; normal cactus compost; minimum temperature 50°F. *Argentina, Uruguay, Paraguay.*



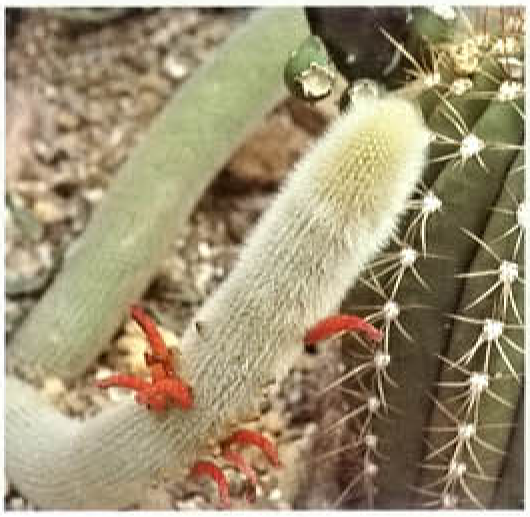
CLEISTOCACTUS **HORSTII** P. J. Braub

A rare, recently introduced columnar plant often found near swampy territory. Stems are slender, 3ft or more in length, dark green with about 10–11 ribs, and regularly arranged brown areoles with grayish spines. Flowers are bright red, about 2½in long. The plant is day flowering, in summer. Water freely in summer, keep barely moist in winter. Needs normal cactus compost; a fairly sunny position; minimum temperature 59°F. *Brazil (Matto Grosso do Sul).*



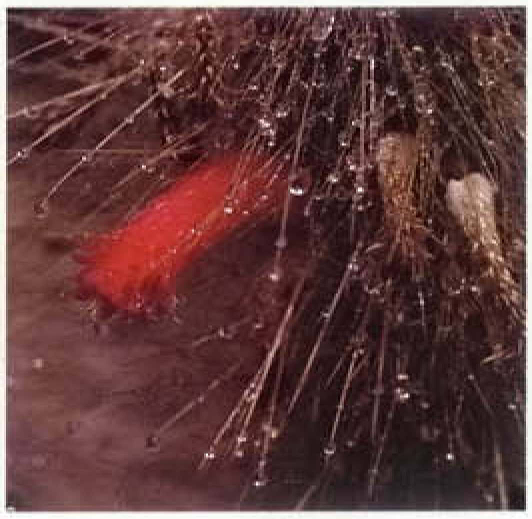
CLEISTOCACTUS **RITTERI** Backeb.
Syn: *Cephalocleistocactus ritteri* (Backeb.) Backeb.

A more or less erect columnar plant to about 3ft tall. The stems are 1in in diameter and bright green, with 12–14 or more ribs. Areoles are dull brown, bearing about 30 fine whitish radial spines, and about five longer centrals. Mature plants have a more densely whitish-spined flowering zone. The flowers are greenish yellow, about 1½in long and slightly downward pointing, and are diurnal, in summer. Requires good light; normal cactus compost; minimum temperature 55°F. *Bolivia (Yungas).*



CLEISTOCACTUS **BROOKEI** Card.
Syn: *Cleistocactus wendlandiorum* Backeb.

A semi-erect or somewhat sprawling columnar plant with greenish stems to about 1½ft long, 1½–2in thick, with about 25 ribs. Areoles are grayish brown bearing 30–40 grayish-white or slightly yellowish spines 1/16–⅛in in length. Day flowering in late summer, the flowers are about 2in long and mostly carmine red. Needs good light; normal cactus compost; minimum temperature 55°F. *Bolivia (Santa Cruz).*



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CLEISTOCACTUS **JUJUYENSIS** (Backeb.) Backeb.
Syn: *Cleistocactus strausii* var. *jujuyensis* Fric

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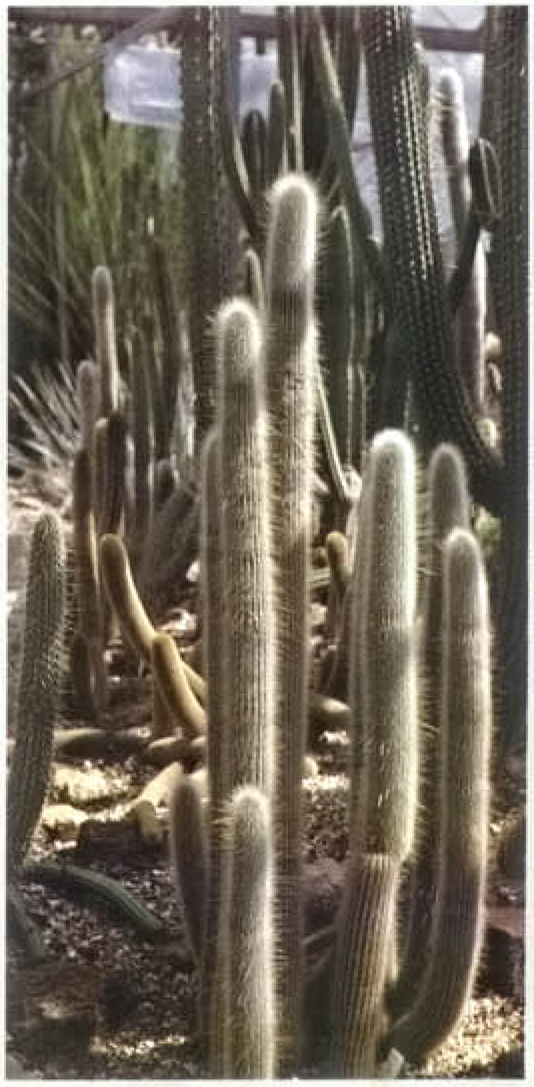
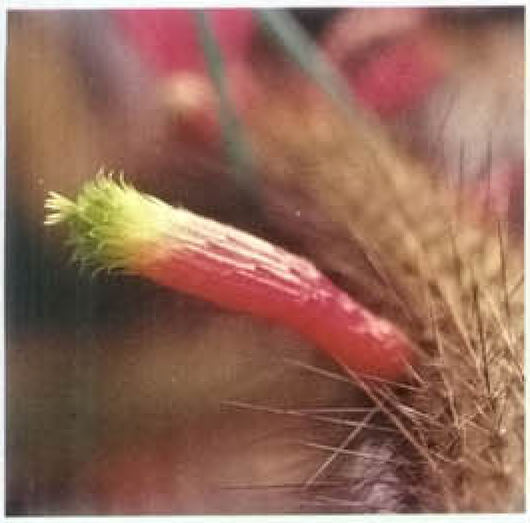
A grayish-green columnar plant, freely branching from the base, with 15–25 ribs. The stems reach 3ft or more in length. The areoles, fairly closely set, bear many hair-like radial spines, almost bristly, up to ⅔in long, and four yellowish-brown central spines. Flowers are pale red and straight, to 1½in long, and are diurnal, appearing in summer. Requires full sun; normal cactus compost; minimum temperature 50°F. *Argentina, Bolivia.*

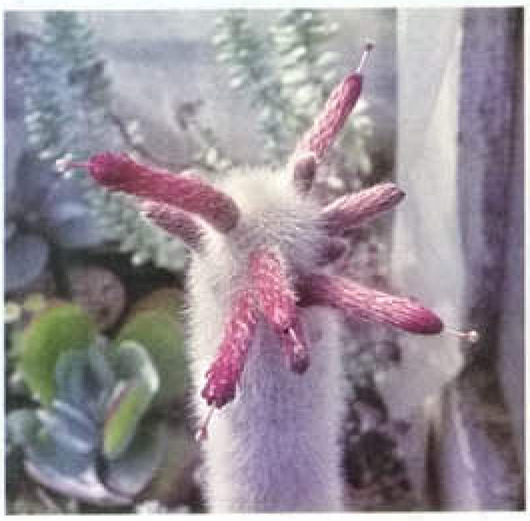


CLEISTOCACTUS



CLEISTOCACTUS **SMARAGDIFLORUS** (Weber) Speg.

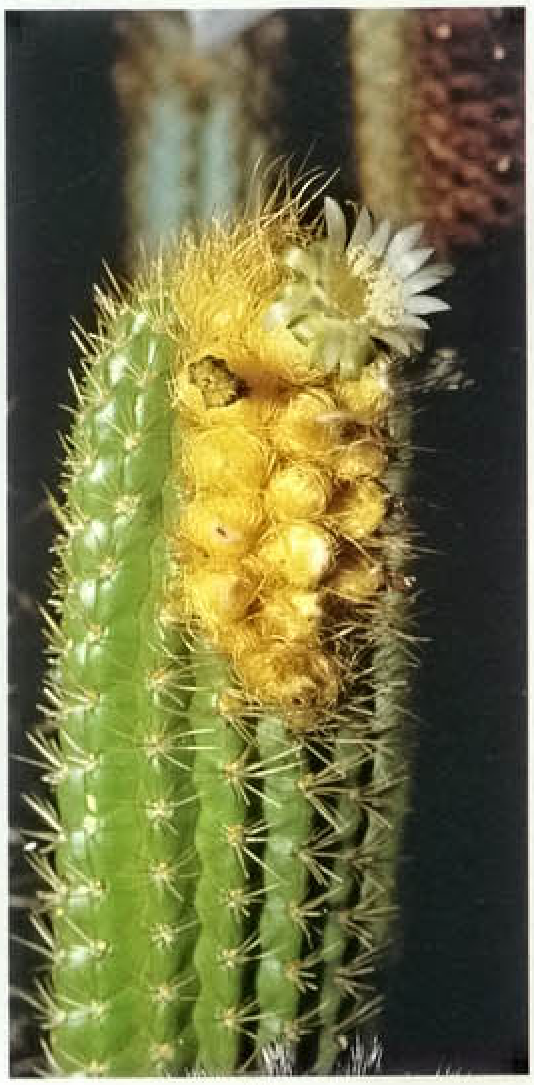
An erect, stiff, columnar species to about 6½ft tall, later becoming rather decumbent. The stems are 1½–2½in thick with closely arranged yellowish-brown areoles set along 12-16 ribs. There are numerous pale to dark-brown spines, the upper ones to 1in in length. Flowers are tubular, red with green tips, up to 2in long. The plant is diurnal flowering in summer and should be kept moist when in bloom. Requires full sun; normal cactus compost; minimum temperature 55°F. *Argentina, Uruguay, Paraguay.*



CLEISTOCACTUS **STRAUSII** (Heese) Backeb. Syn: *Pilocereus strausii* Heese

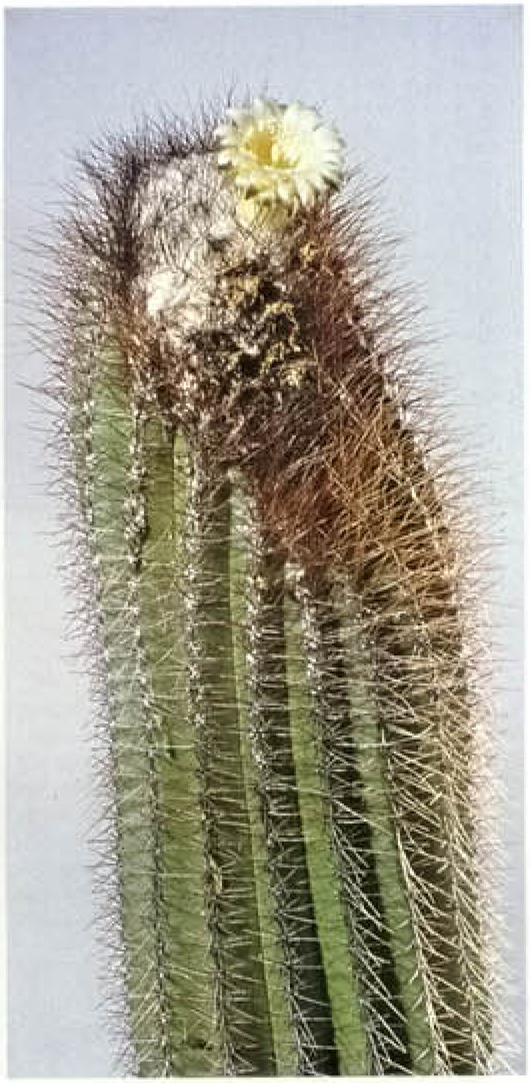
A branching, columnar plant with stems 3ft or more high, 1½–3¼in thick, totally covered with silvery white spines. The light green stems have about 25 ribs; the areoles, set about ⅛in apart, have 30 or more snow-white bristly spines to ⅔in long, and four longer pale yellowish spines to 1½in in length. Flowers are carmine red, straight, and 3¼–3½in long; these are diurnal, appearing in summer. Requires full sun; normal cactus compost; minimum temperature 50°F. *Bolivia.*

COLEOCEPHALOCEREUS



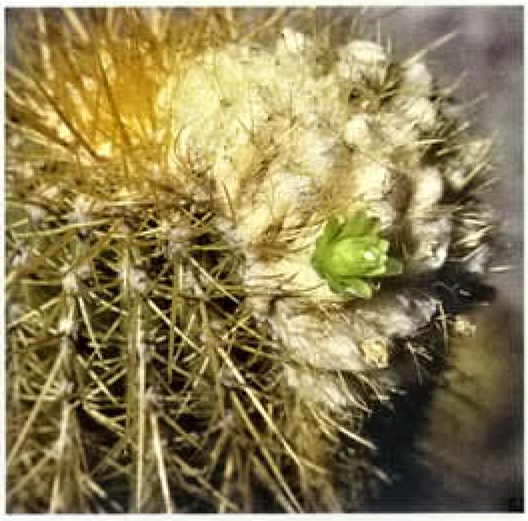
COLEOCEPHALOCEREUS **BRAUNII** Diers & Esteves

A recent discovery by L. Horst, Esteves Pereira, and Pierre Braun (pictured). Up to about 3ft tall. The stems have 12 or more notched ribs and the areoles are pale brownish with yellowish spination. The cephalium, apparent when plants reach about 6in tall, consists of yellowish spines and wool. Night flowering in summer, the greenish white flowers are followed by purple fruits. Needs sun and warmth; normal cactus compost; minimum temperature 55°F. *Brazil (Espirito Santo).*



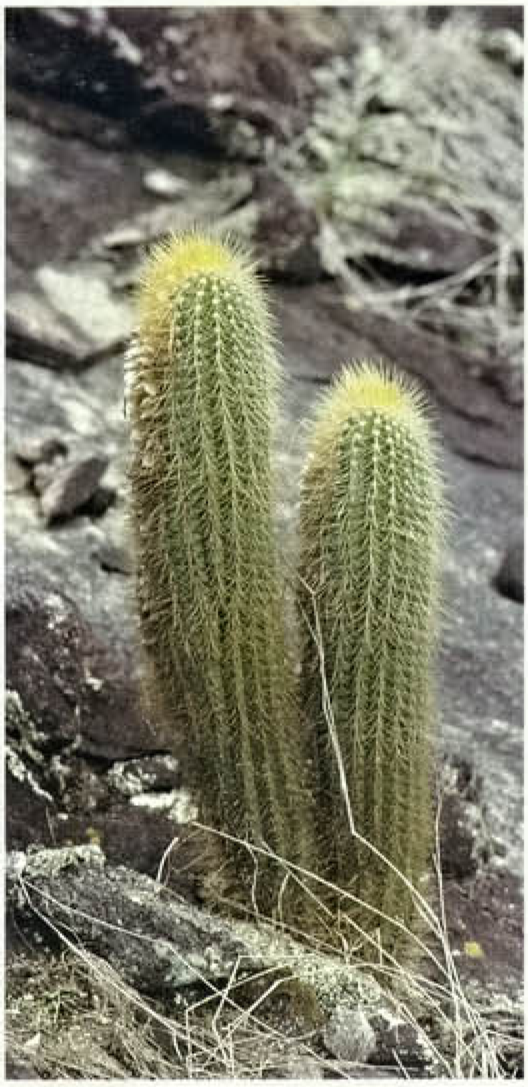
COLEOCEPHALOCEREUS **DIERSIANUS** Braun & Esteves

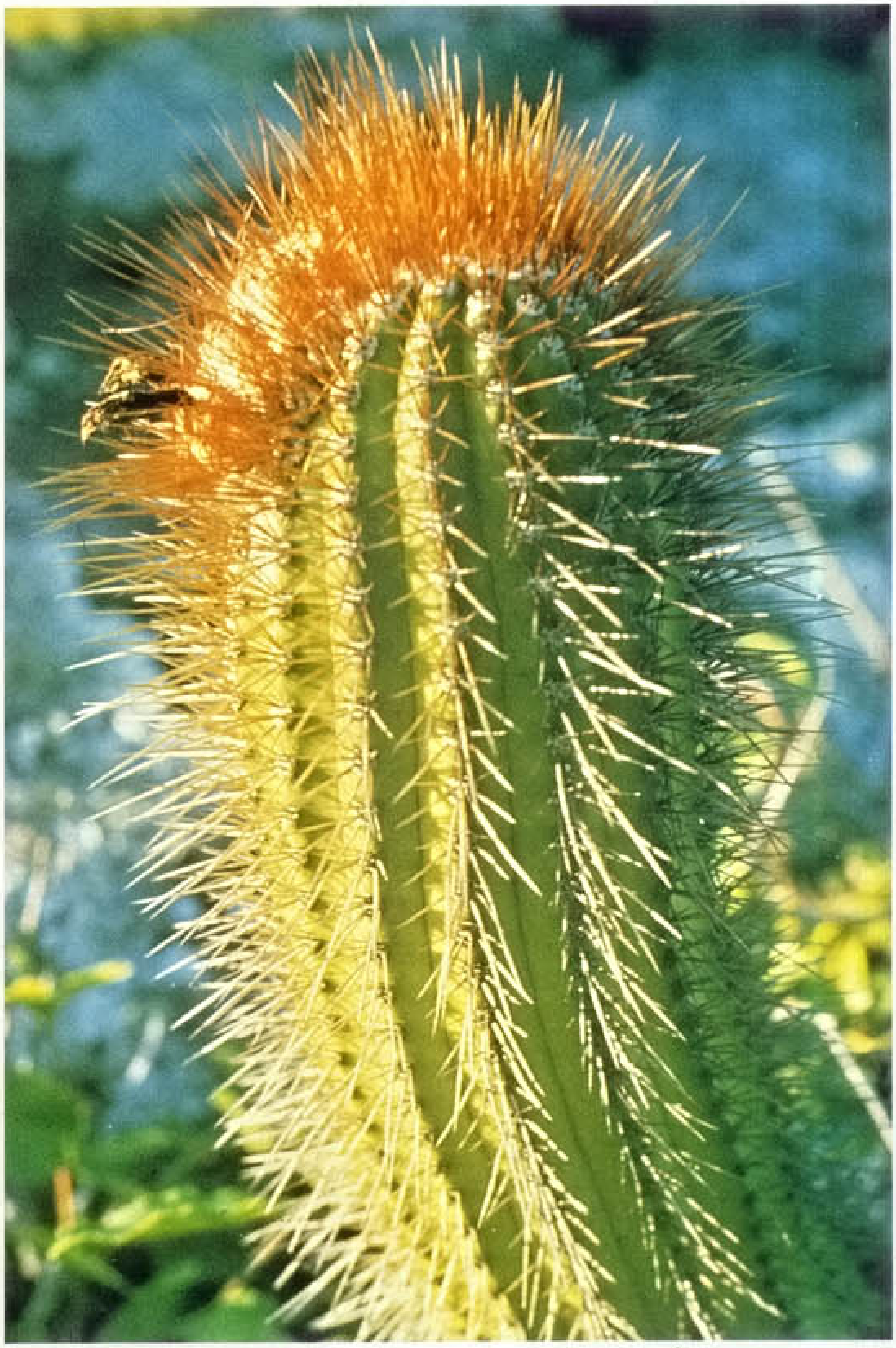
Discovered in 1983 growing on high granite mountain slopes. A fairly erect, deep-green plant with about 15 straight ribs. The areoles are closely set, with brownish-yellow spines becoming grayish; the cephalium is somewhat blackish. Night flowering in summer, the flowers are creamy white to greenish white. Needs very careful watering at all times; a sunny and airy position; normal cactus compost; minimum temperature 55°F. *Brazil (Minas Gerais).*



COLEOCEPHALOCEREUS ELONGATUS (Buin.) Braun
Syn: *Buiningia elongata* Buin.

A tall, columnar species with stems to about 3ft high with 15–20 straight ribs, deeply furrowed between, having whitish woolly areoles bearing prominent yellowish-brown spines. The flowers are green, borne in a white woolly and yellowish bristly cephalium, and appear at night in summer. Needs bright light which is essential; normal cactus compost; minimum temperature 55°F. *Brazil (Minas Gerais).*





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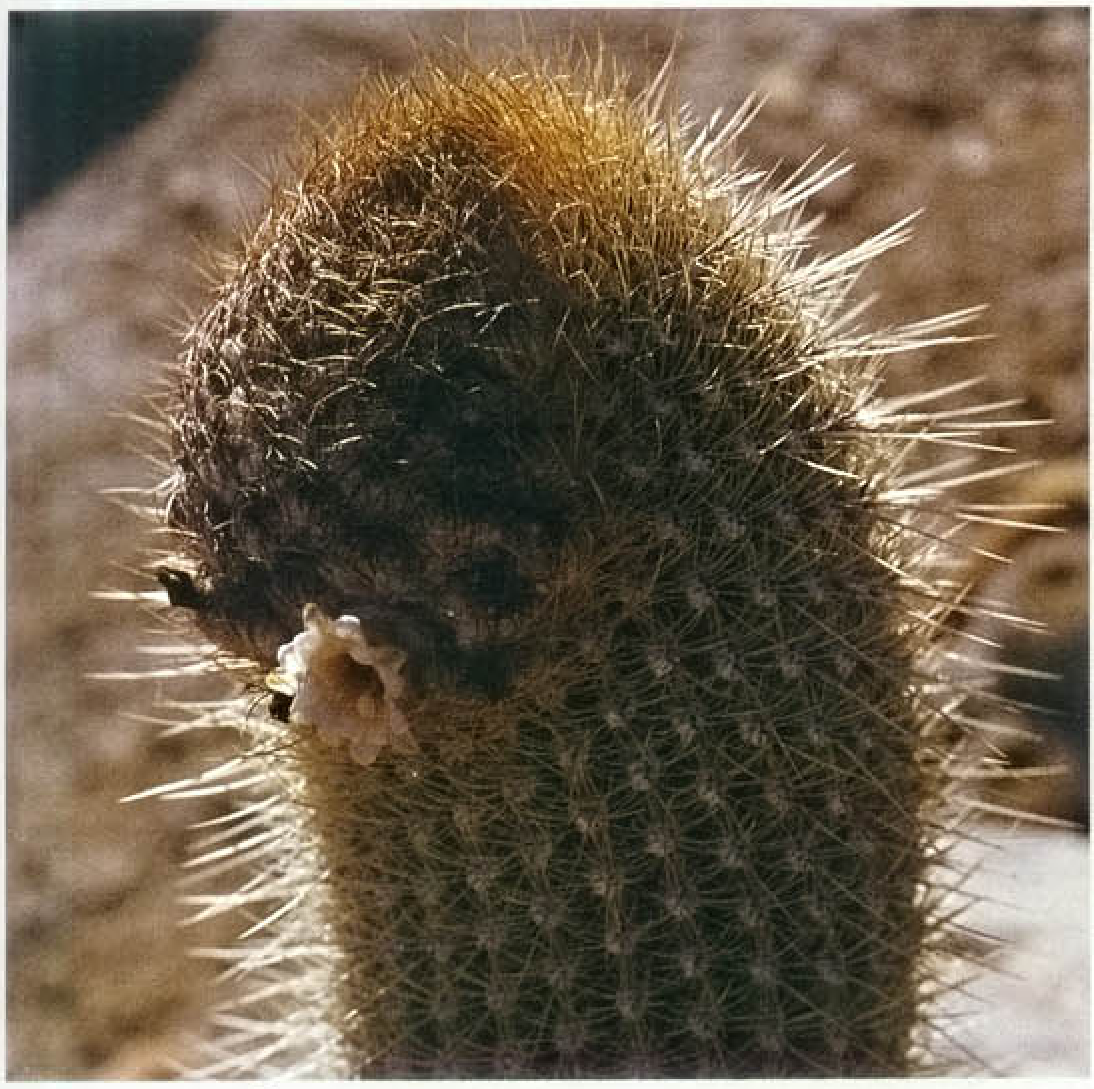
COLEOCEPHALOCEREUS ESTEVESII Diers

An erect, columnar plant of bright green dominated by a mass of yellowish, widely spreading spines. The 18–20 ribs have fairly close-set areoles. The whitish flowers, borne in a lateral cephalium, are long and tubular in shape and are nocturnal, appearing in summer. This is one of a number of fascinating species discovered by E. Esteves Pereira, for whom it is named. Requires full sun; mineral-based cactus compost; minimum temperature 55°F. *Brazil (Goiania).*

COLEOCEPHALOCEREUS FLUMINENSIS var. BRAAMHAARII Braun

The type species, *Coleocephalocereus fluminensis* (Miquel) Backeb., was one of the earliest introductions of cacti from Brazil. This is a columnar plant to about 3ft tall, 4in thick, with about 15 ribs. Areoles bear orange-brown spines, both radial and central, up to 1in in length. Flowers are whitish with pinkish outer petals, appearing from a whitish woolly cephalium. They are nocturnal, flowering in summer. Needs full sun; slightly calcareous cactus compost; minimum temperature 55°F. *Brazil (Espirito Santo).*

COLEOCEPHALOCEREUS



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COLEOCEPHALOCEREUS **GOEBELIANUS** (Vaup.) Ritter

Tall columnar plants to about 6½ft high, 2½in in diameter with 10–20 ribs and close-set areoles bearing 10–12 brown, needle-like spines to ½in long. The lateral cephalium is about 8in wide, densely woolly, dark, and bristly. Flowers are bell-shaped, about 2in long, with very pale pinkish-white short petals, widely spreading, and nocturnal flowering in summer. Requires sun and warmth; normal cactus compost; minimum temperature 59°F. *Brazil.*

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COLEOCEPHALOCEREUS **PURPUREUS** (Buin. & Bred.) Ritter
Syn: *Buiningia purpurea* Buin. & Bred.

A short or long columnar plant to about 3ft tall, 4in thick. The deep green stems have 13 ribs with about 12 radial spines up to 1in long and about four centrals to 3in. Spines are brownish, later grayish. The woolly cephalium is grayish with yellow or reddish-gray bristles. Flowers are purplish red, 1in long, appearing at night in summer. Requires slightly calcareous cactus compost; bright sunshine; minimum temperature 55°F. Also featured is the tall *Brasilicereus phaeacanthus* var. *breviflorus*. *Brazil.*

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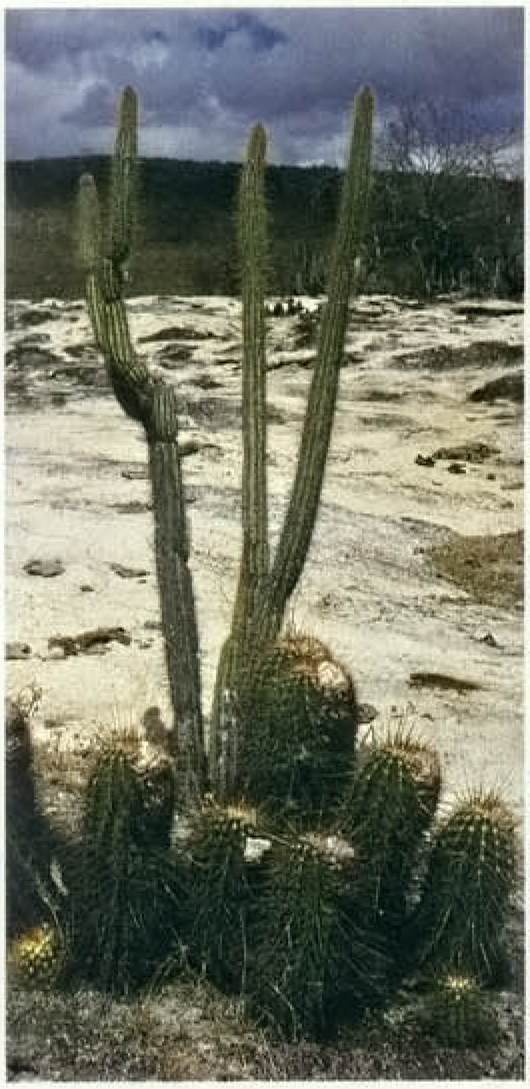
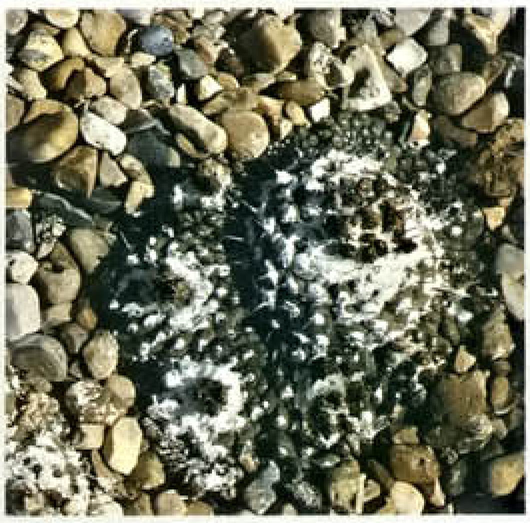


COPIAPOA



COPIAPOA **BARQUITENSIS** Ritter

Closely allied to and possibly synonymous with *C. hypogaea*. It has a rather flattened, rounded stem which offsets from the base and is dark brownish green, 2½–3in wide. The ribs are divided into tubercles spirally arranged. Areoles are clothed in white wool and bear a few very short spines. Flowers are borne in the densely woolly crown and are yellow, about ¾in long; these are diurnal, appearing in summer. Bright sun is advisable; normal cactus compost; minimum temperature 50°F. *Chile.*

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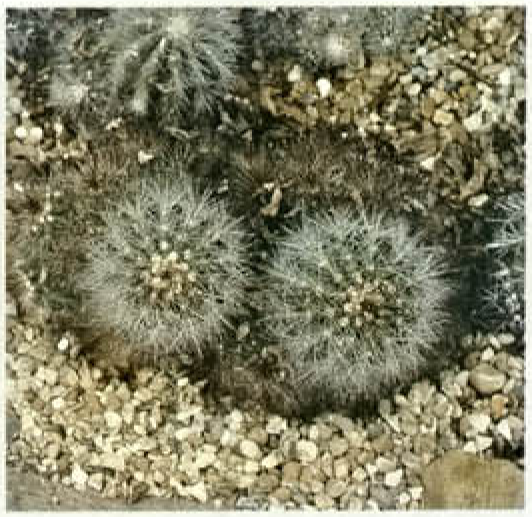

COPIAPOA **BRUNNESCENS** Backeb.

An illegitimate specific title – the plant has certain features peculiar to itself, but might better be classified as *Copiapoa krainziana* var. *brunnescens*. The globular grayish-green stem is 3¼–4¾in wide, offsetting from the base to form large clumps. About 14 ribs have prominent grayish-white areoles bearing many grayish-white, spreading radial spines and a few centrals ½–¾in in length. The flowers are yellow, diurnal, appearing in summer, and are up to about 1in long. Requires sun; an open, slightly calcareous compost; minimum temperature 50°F. *Chile.*

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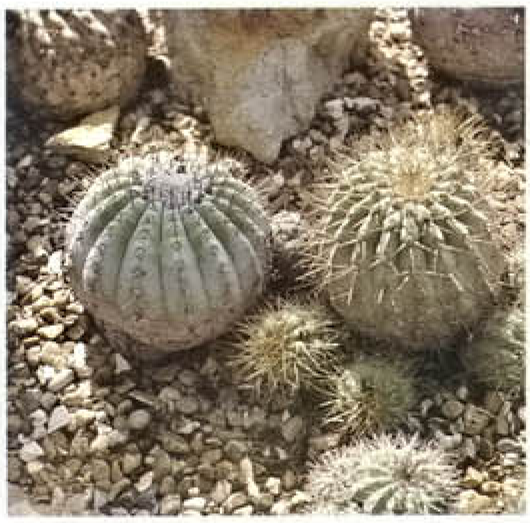
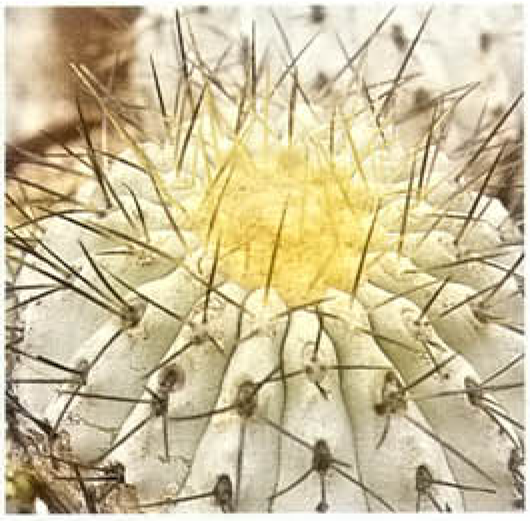


COPIAPOA **CINEREA (Phil.)** Br. & R.

The plants are globular when young, later cylindrical, to 4in in diameter, eventually reaching over 3ft tall, and are whitish gray. There are 14–30 ribs with one or two black spines to ¾in or more in length. Flowers are bright yellow, diurnal in late summer, and about 1⅓in long and wide. Needs bright light, which is essential; calcareous cactus compost; minimum temperature 50°F. *Chile (Taltal).*

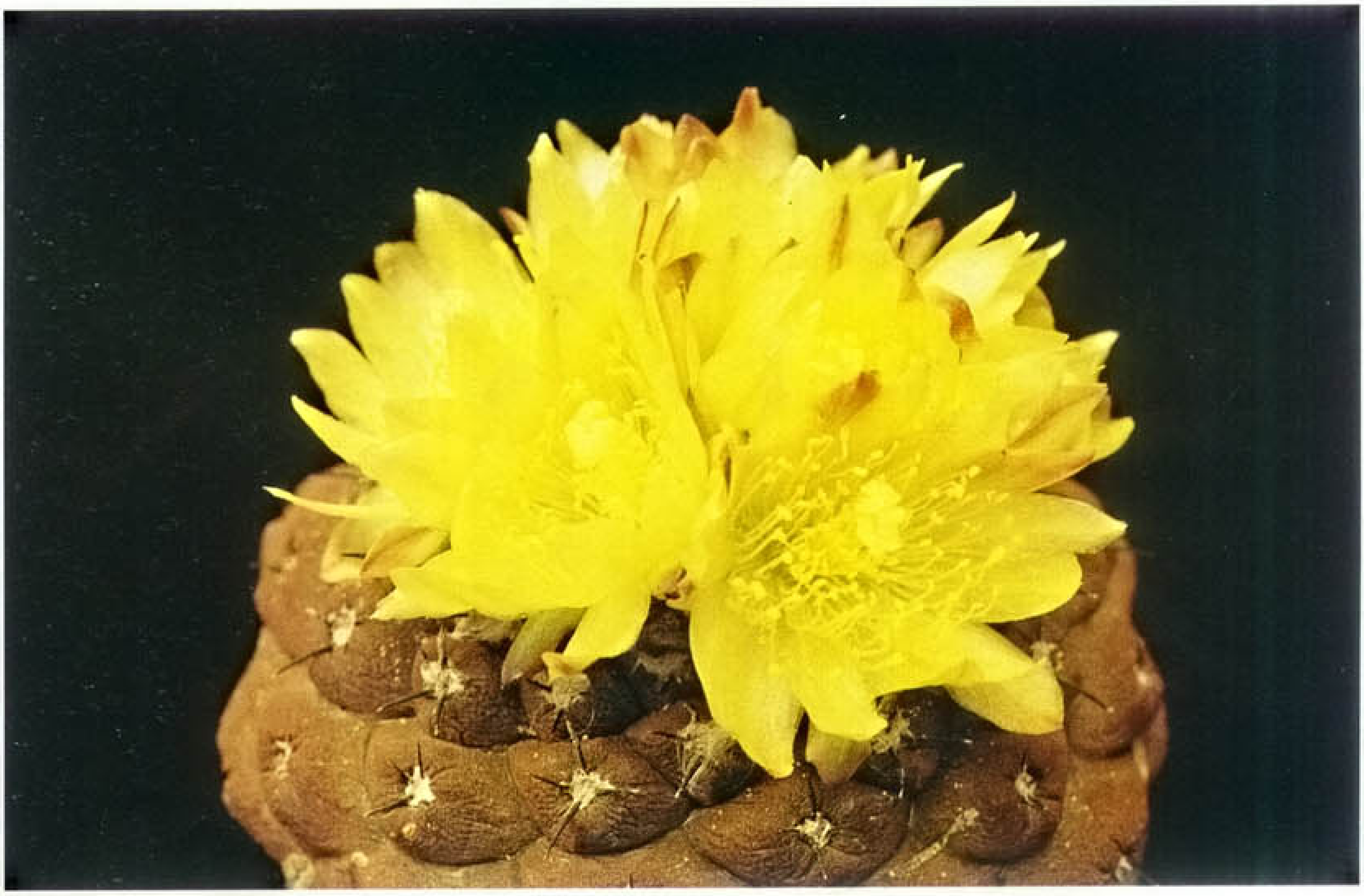


COPIAPOA **HASELTONIANA** Backeb.

An almost cylindrical plant to about 8in in diameter and 1ft high; possibly a natural hybrid of *C. cinerea*. It is totally grayish in color with 20 or more pronounced ribs, and areoles set well apart with few spreading radial spines, rarely one central, which are dark brown. The crown of the plant is covered with creamy yellow wool and fine hairs. Flowers are golden yellow, diurnal in summer, 1–1⅓in long. Requires a slightly shaded position; normal cactus compost; minimum temperature 50°F. *Chile (Taltal).*

COPIAPOA **HYPOGAEA** Ritter

A globular species 1½–2¾in in diameter with a fairly rough, dull brownish-green skin, and 10–14 slightly spiralled ribs regularly divided into tubercles. The crown of the plant is set with white wool. Areoles at the tips of tubercles bear one to six brownish spines 1/16in long, which soon fall. Flowering in late summer, the flowers arise from the crown. They are diurnal, golden yellow in color, and about ¾in long, 1½in across. Very careful watering is demanded. Requires filtered light; normal cactus compost; minimum temperature 50°F. *Chile (Antofagasta).*



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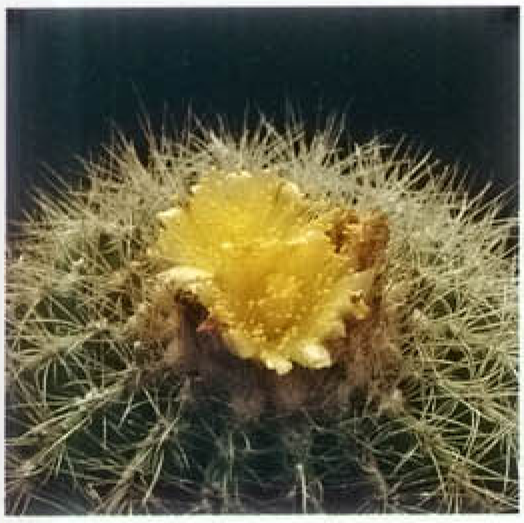

COPIAPOA **KRAINZIANA** Ritter

A grayish-green globular plant to about 4¾in in diameter, forming clusters to 3ft or more across. The crown is gray and woolly, and there are 13–24 ribs with grayish areoles bearing 10–12 white to grayish radial spines, ½–¾in in length, and 14–20 centrals ¾–1in long. Day flowering in summer, the flowers are yellow, about 1⅓in long. Requires bright light; normal cactus compost; minimum temperature 50°F. *Chile (Taltal).*

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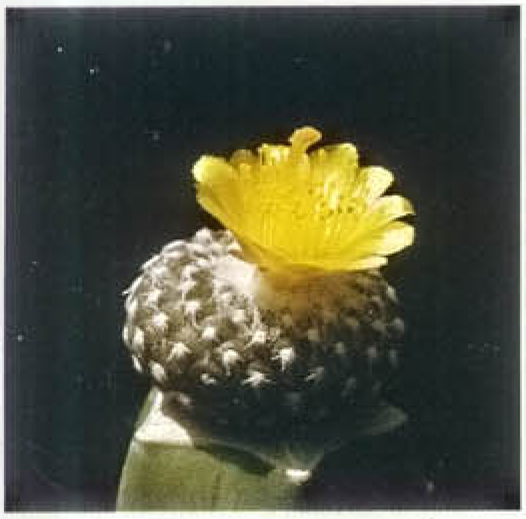

COPIAPOA **LAUI** Diers

A true miniature species only ½–1in in diameter. It is somewhat similar to species of *Blossfeldia* or *Frailea*. The round stem is brownish in color with about 20 or more well-defined ribs somewhat spirally arranged and tuberculate. The areoles have white wool and fine hairs and bear a few insignificant spines. Flowers appear diurnally in mid-summer, and are rich glossy yellow to 1in across. Probably best grafted on *Cereus* stock. Requires partial shade; normal cactus compost; minimum temperature 50°F. *Chile (Esmeralda).*

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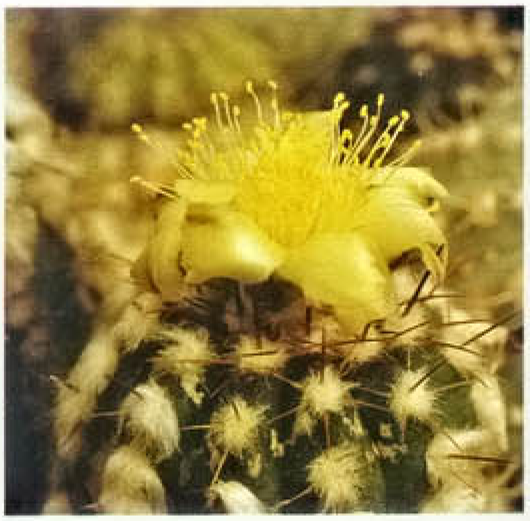

COPIAPOA **MOLLICULA** Ritter

A gray-green globular plant about 3in in diameter having 10–14 somewhat blunt ribs set with white woolly areoles. These have five to nine grayish-brown radial spines ⅛–⅔in long, and one to three blackish-brown centrals, ½–1in in length. Summer flowering, the flowers are diurnal and rich yellow, about 1in long. Needs good light; normal cactus compost; minimum temperature 50°F. *Northern Chile.*

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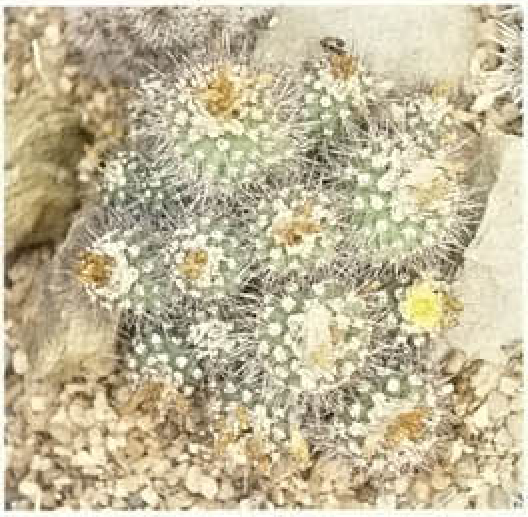

COPIAPOA **SERPENTISULCATA** Ritter

A clustering, clumping species with grayish-green individual stems up to 6in in diameter and yellowish-brown crowns. Ribs vary from about 20 to often over 30 in the wild. The areoles are brown (white in cultivation) with yellowish-brown or grayish spines ¾–1in in length consisting of six to ten radials, one to four centrals. Flowers are pale yellow, to 1in long, and are diurnal, appearing in late summer. Requires good light; normal cactus compost; minimum temperature 50°F. *Chile (Chanaral).*

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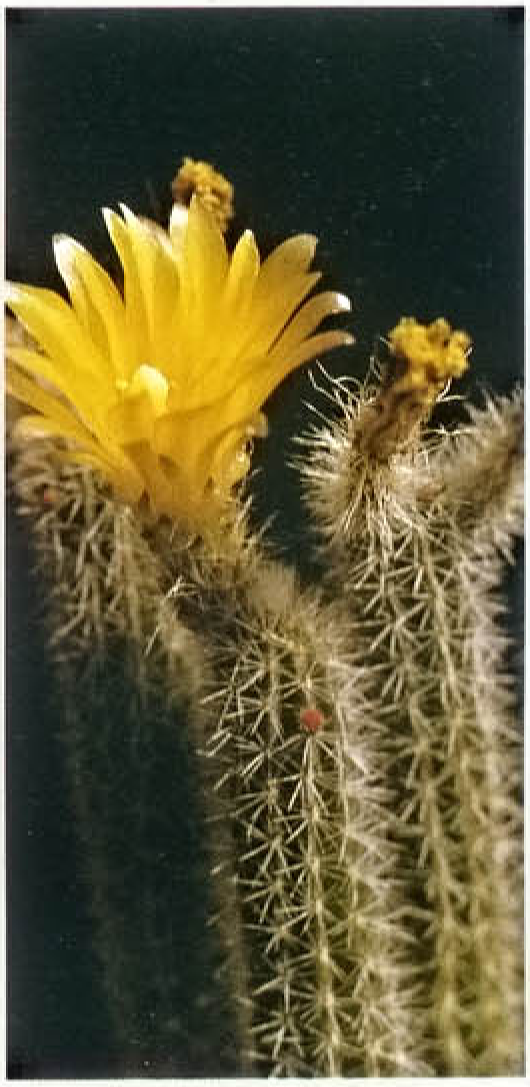
CORRYOCACTUS



CORRYOCACTUS **AUREUS** (Meyen) P. C. Hutch
Syn: *Erdisia meyenii* Br. & R.

More or less cylindrical plants with stems 1½ft or more tall. These are pale brownish green, 1–2in thick with five to eight ribs; the areoles are set fairly close together. The spines are brownish, consisting of nine to eleven radials to about ¾in long, often with one, rarely two, longer centrals to 2½in. A day-flowering plant, in summer, the flowers are yellow to orange, about 1½in long. Requires bright light; normal cactus compost; minimum temperature 55°F. *Peru (Arequipa).*

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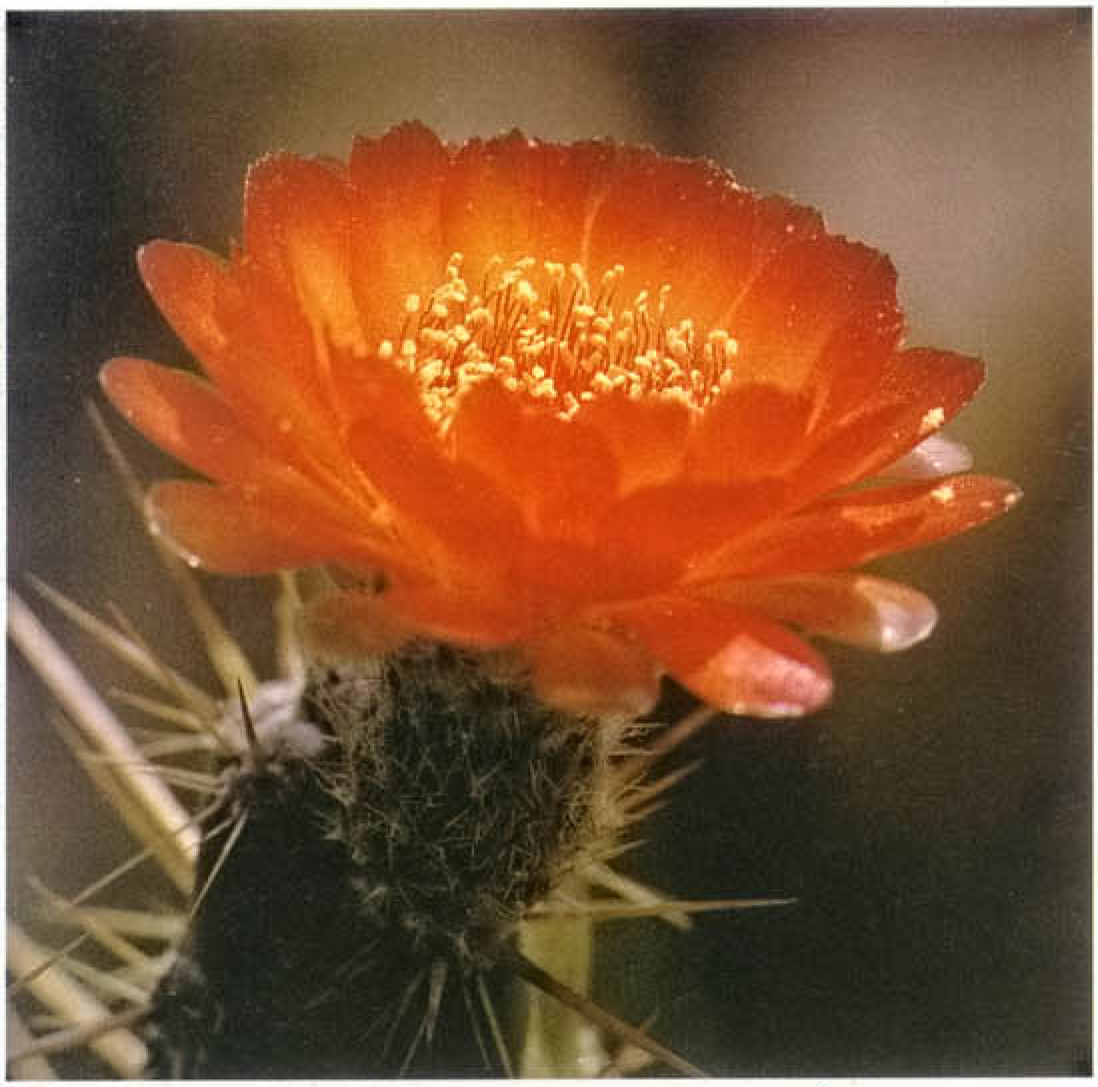
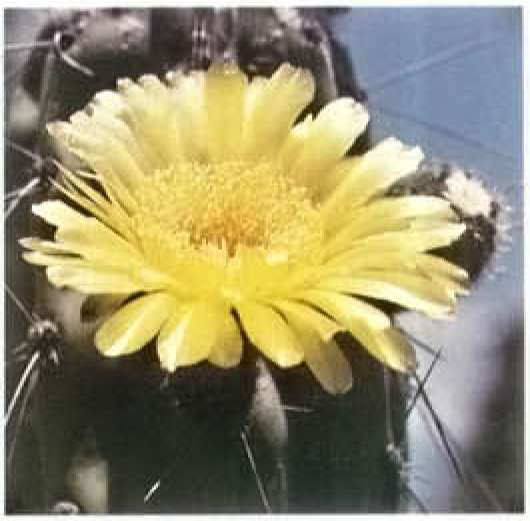


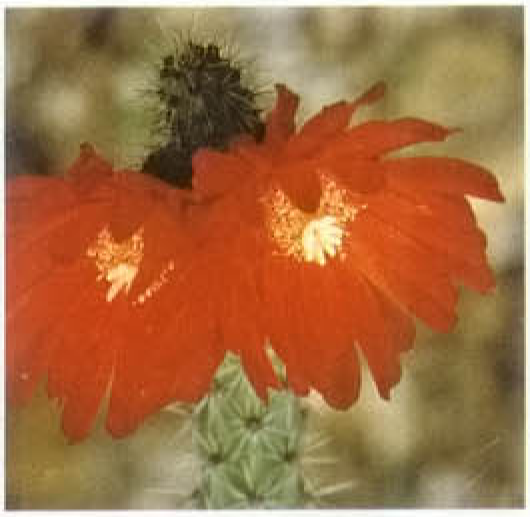
CORRYOCACTUS **BRACHYPETALUS** (Vaup.) Br. & R.

Columnar, dull green plants to about 18ft high, usually branching from the base. The ribs are fairly prominent, generally seven to eight in number with areoles to ½in wide, set at intervals of approximately ¾in. The spines are brownish black, about 20 to each areole, and from about ⅓–4in or more long. Flowers appear in early summer; these are diurnal and broadly funnel-shaped, 1½–2½in across, and deep orange. In the foothills of southern Peru at altitudes of around 1,968ft, clumps of these long, slender stems provide an imposing sight, growing as they do almost in isolation. Needs sun; an enriched mineral compost; minimum temperature 55°F. *Southern Peru.*



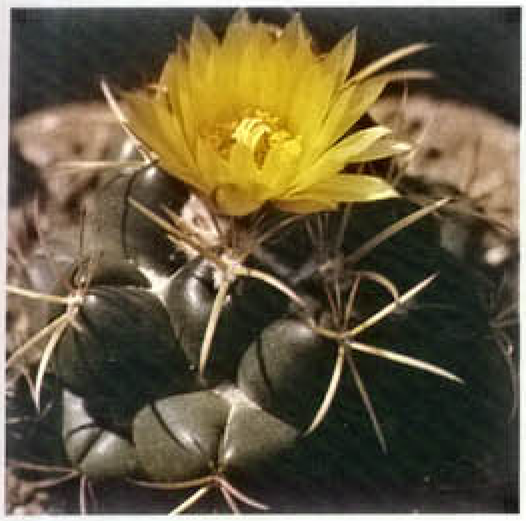
CORRYOCACTUS **BREVISTYLUS** (K. Sch.) Br. & R.

A dark-green columnar species, branching freely from the base. Individual stems are from 10–13ft high in its habitat, to 6in thick, and it has six to seven ribs with densely woolly areoles set about 1in apart. Their spines are dark brown, about 15 in number, varying from ½–1in long; others are very much longer. Day flowering in summer, the flowers are golden yellow, up to 4in broad, and fragrant. Needs full sun; normal cactus compost; minimum temperature 55°F. *Peru.*



CORRYOCACTUS **SQUARROSUS** (Vaup.) P. C. Hutch.
Syn: *Erdisia squarrosa* (Vaup.) Br. & R.

Plants with long, branching, deep-green stems 3–6½ft in length and ½–1in thick, with five to eight ribs and brownish areoles. The spines are yellowish, consisting of nine to thirteen radials about ½in long and often one central to 1in in length. Summer flowering and diurnal, the flowers are bright red, about 1½in long and across, and appear from the tips of the branches. Requires a sunny position; normal cactus compost; minimum temperature 55°F. *Peru (Tarma).*



CORYPHANTHA **ANDREAE** (Purp. & Böed.) Böed.
Syn: *Mammillaria andreae* Böed.

A more or less globular plant to 3½in in diameter, it is a dark, glossy green with wool in the crown and axils. Tubercles are ¾in high, 1in thick. The radial spines are yellowish gray, about 10 in number, to ½in long; there are five to seven curved centrals up to 1in long. Flowers are diurnal in summer and are bright yellow, opening 2–2½in wide. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Veracruz).*

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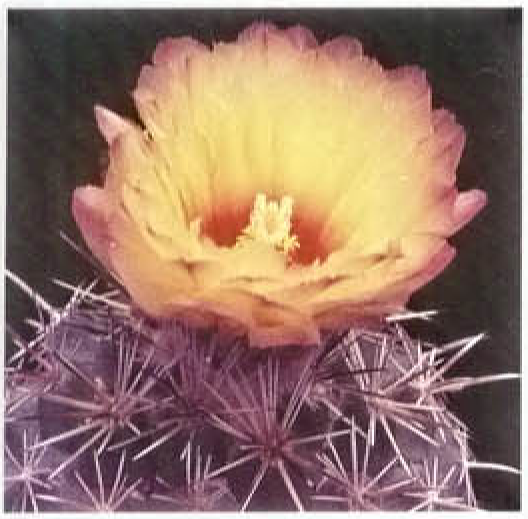

CORYPHANTHA **BORWIGII** Purp.
Syn: *Coryphantha difficilis* (Quehl) Berger

Bluish-green, globular, with four-angled, conical tubercles. The stems are 2½–4in high, 2–3in thick with tubercles to ⅔in high. The axils are initially woolly, later bare. There are nine to ten radial spines and one to three centrals, all brownish and to ¾in long. Day flowering in summer, the flowers are about 2½in long, with petals in three rows, the inner yellow with a dark median line, the middle yellow with frilled tips, and the outer pale reddish purple. Requires bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Coahuila).*

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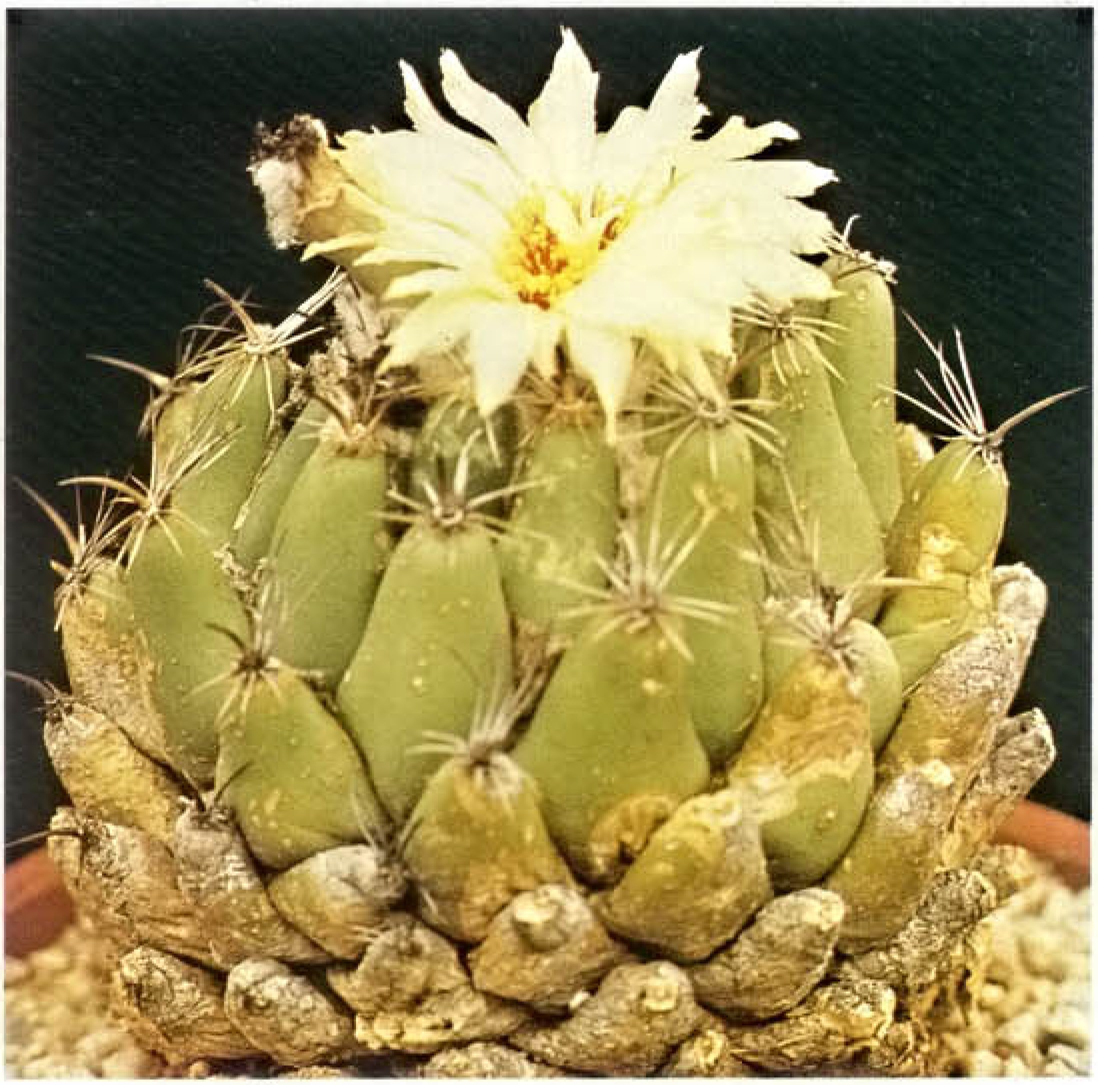

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CORYPHANTHA **CALIPENSIS** Bravo

An almost globular plant, but slightly elongated, up to 3½in high, 2–3¼in wide. It is grayish-green with prominent tubercles 1in long and wide. The spines are brownish, becoming gray, and consist of 10–16 radials ½–⅔in long and one central, slightly curved and ⅔in in length. Summer flowering, the flowers are diurnal, 2–2½in across and creamy with deep red filaments. Requires sun; normal cactus compost with a few lime chippings added; minimum temperature 55°F. *Mexico (Puebla).*

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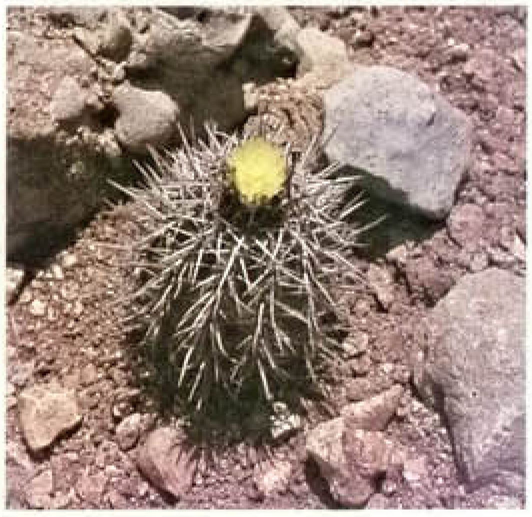

CORYPHANTHA **CALOCHLORA** Böed.

A somewhat oval-shaped plant of dark, almost blackish green, 3½–4in high and about 3¼in wide with almost rounded tubercles and bare axils. The areoles are initially woolly, later bare, with 12–15 thin, whitish radial spines to ⅔in long and three to five longer grayish centrals. Day flowering in summer, the flowers are yellow, with outer segments brownish purple, and 1–1½in wide when fully open. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico.*

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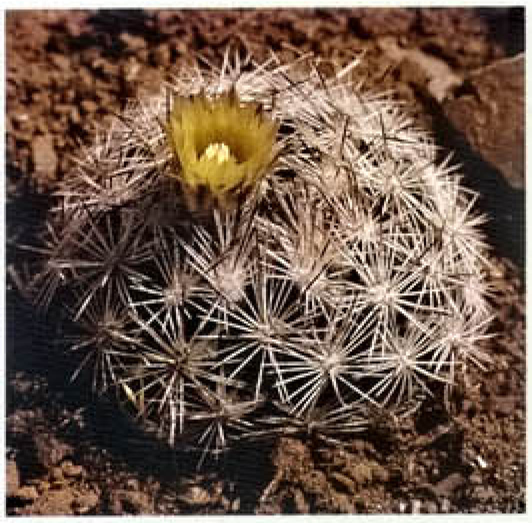
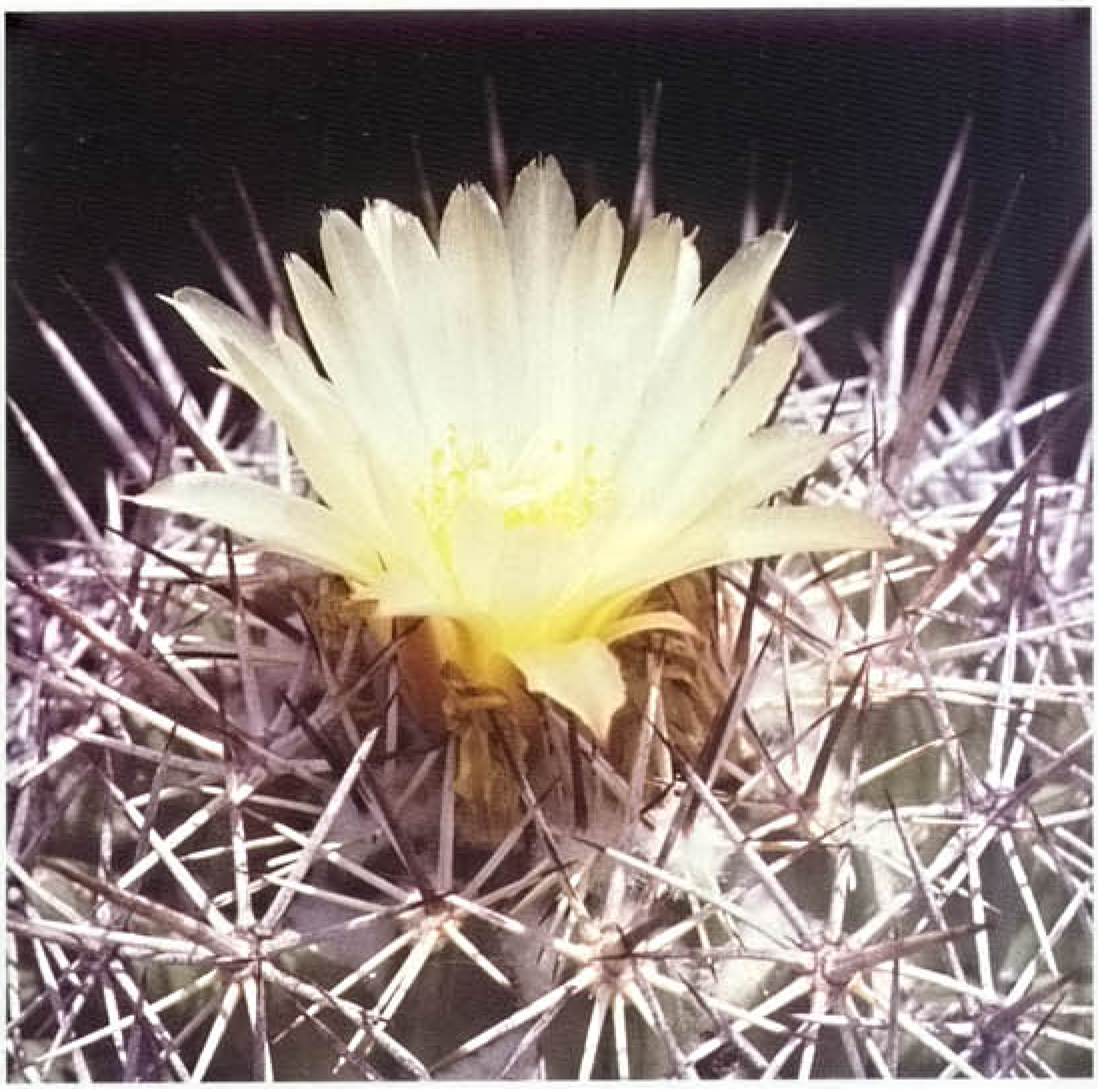


CORYPHANTHA **CHLORANTHA** (Engelm.) Br. & R.

A globular to cylindrical-shaped, dark green plant, about 8in high, 3¼in in diameter. The tubercles are closely set and covered with densely matted spines; the axils are bare. There are 20 or more radial spines, whitish with pale brown tips ½–¾in long, and three to five centrals of similar color, to 1in in length. Flowering in summer and diurnal, the narrow yellow petals have a greenish mid-rib, and are 1in long, 1½in across. Requires sun; normal cactus compost; minimum temperature 50°F. *USA (Utah, Nevada, Arizona).*

CORYPHANTHA **CLAVATA** (Scheidw.) Backeb.
Syn: *Coryphantha raphidacantha* (Lem.) Berger; *Mammillaria clavata* Scheidw.

A conical, bluish-green plant 6in–1ft high and 1½–3in thick with tubercles up to ¾in long and white woolly axils. The six to nine radial spines are whitish, tipped brown, ¼–½in long and one yellowish-brown, slightly hooked central to ¾in long. Day flowering in summer, the flowers are glossy yellow with brownish outer segments, ¾–1in long. Requires very slight shade; normal cactus compost; minimum temperature 50°F. *Mexico (Hidalgo, Queretaro).*



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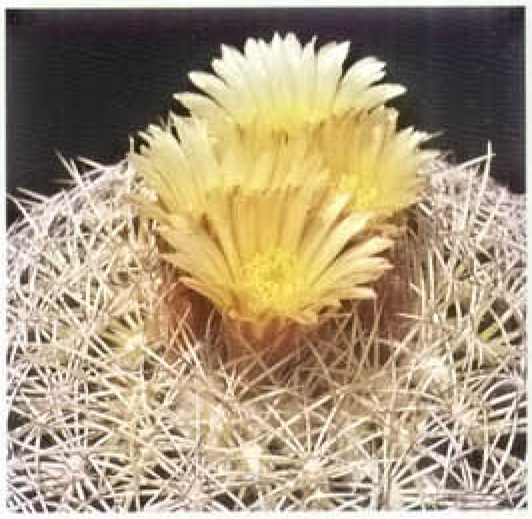
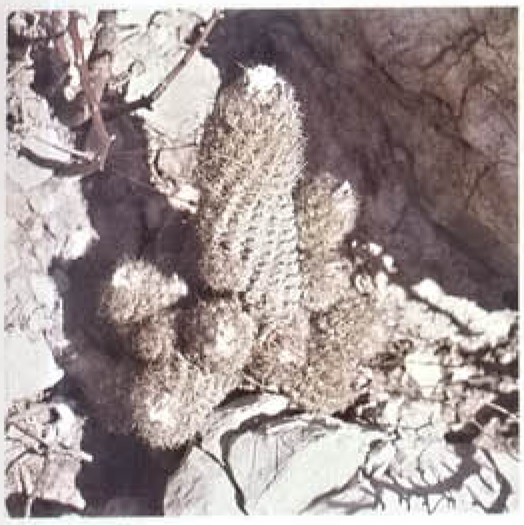
CORYPHANTHA **CLAVATA var. RADICANTISSIMA** (Quehl.) Heinr.
Syn: *Mammillaria radicantissima* Quehl.

The stems are more or less globular covered with tubercles about ½in long, and white woolly axils. Areoles carry about nine to eleven radial spines, more or less grayish in color, to ½in long, with usually one central of similar length and color, tipped blackish. The plant flowers diurnally in summer; the flowers are yellow, ¾–1in long, ⅔–1in across. Cultivation is the same as for the species. *Mexico (San Luis Potosi).*



CORYPHANTHA **COMPACTA** (Engelm.) Br. & R.

A dark-green globular plant 1–2½in high and 2–3¼in thick. The tubercles and areoles are close-set together, each tubercle about ⅓in long. Areoles bear 14–16 spreading, whitish radial spines ½–¾in long, generally without centrals. Summer flowering, the flowers are diurnal, and about ¾in long and wide; the inner petals are yellow, outer ones reddish externally. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Chihuahua).*



CORYPHANTHA **DURANGENSIS** (Rge.) Br. & R.

The plant is cylindrical, grayish green, and 4–6in high, 1½–2½in thick, freely clustering. Tubercles are four-angled at the base, almost pointed at the tips, with white woolly axils. The radial spines are whitish gray to ½in long; one slender, black central slightly longer. Day flowering in summer, the flowers are creamy white to pale yellow, up to ¾in long, with reddish-brown outer segments. Needs careful watering and good light; normal cactus compost with lime chippings; minimum temperature 50°F. *Mexico (Durango).*

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CORYPHANTHA **ELEPHANTIDENS** (Lem.) Lem.
Syn: *Mammillaria elephantidens* Lem.

A globular, dark glossy-green plant, solitary or offsetting. Stems reach up to 5¼in high, 8in in diameter, and the large rounded tubercles are up to 1½in long, 2½in wide at the base with white woolly axils. Areoles bear six to eight curved, brownish radial spines to ¾in in length, no centrals. Pink to carmine flowers appear in summer, and are diurnal, 3¼–4in across. Needs full sun; normal cactus compost; minimum temperature 55°F. *Mexico (Michoacan).*

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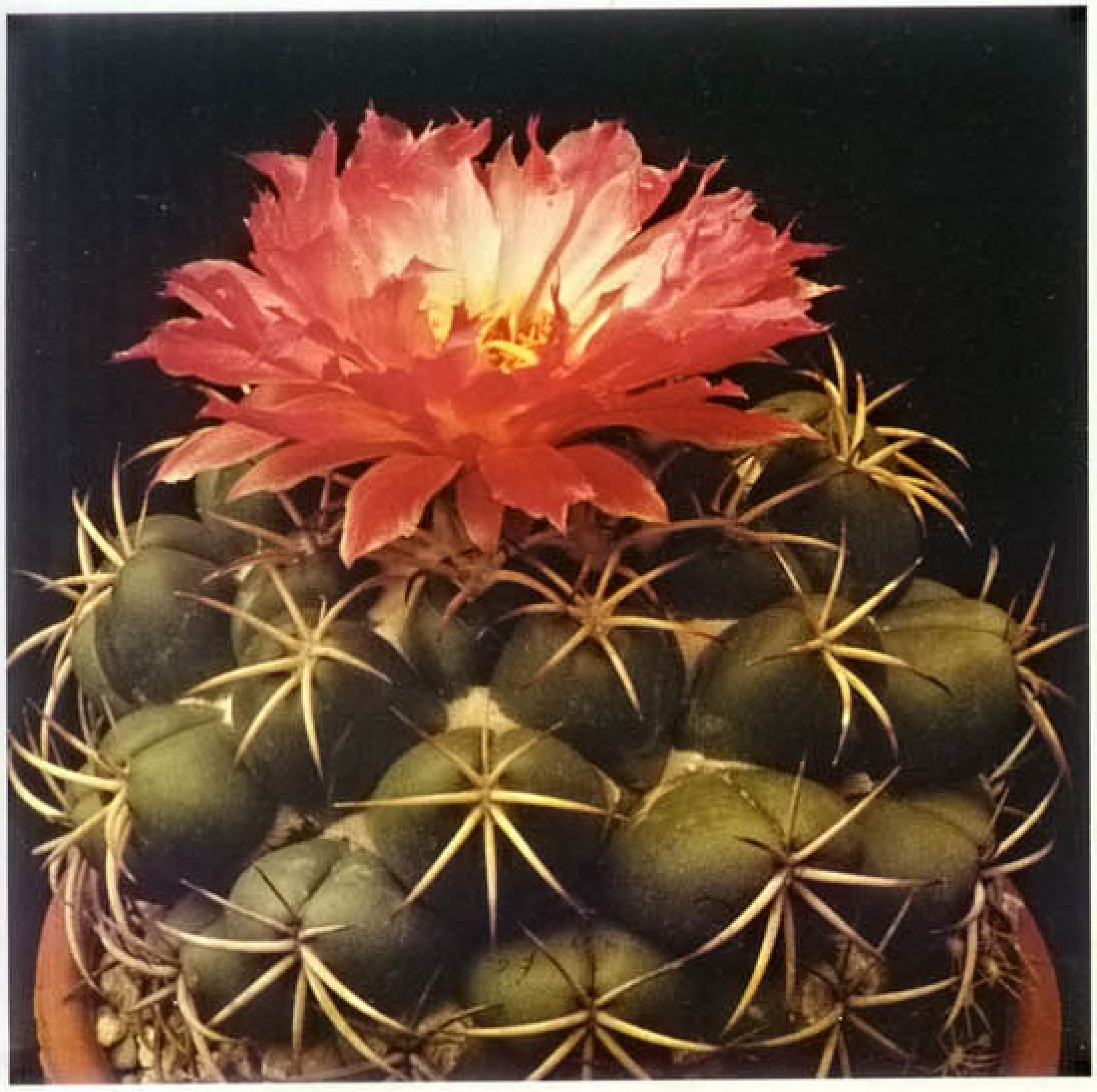

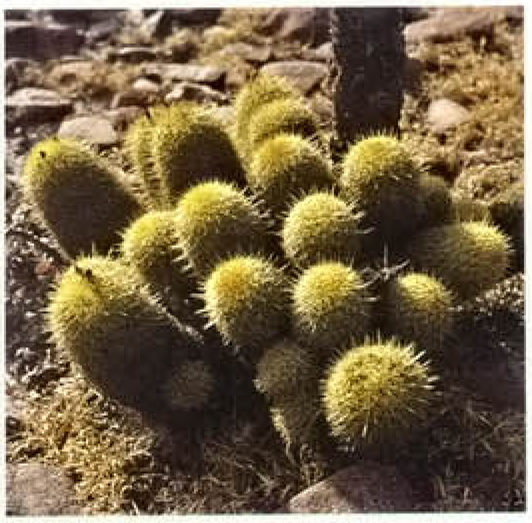

CORYPHANTHA **ERECTA** (Lem.) Lem.

The stems are cylindrical, clustering from the base, each reaching up to 1ft high, 2½–3¼in in diameter. These are yellowish green with conical tubercles ⅓in long, ⅔in wide at the base, and the axils and crown of the stems are woolly. The spines are yellowish brown and consist of eight to fourteen radials about ½in long and two to four centrals, up to ¾in in length. Flowering in summer, the flowers are diurnal, pale yellow, and up to 2½in long and wide. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Hidalgo).*

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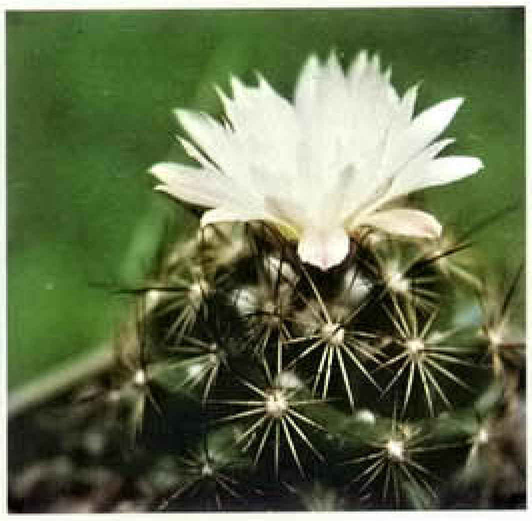

CORYPHANTHA **GLADIISPINA** (Böed.) Berger

Plants are solitary, oval in shape, and a dark grayish green, 4in high and 2½in thick, with a very spiny crown. They have fairly prominent tubercles and areoles bearing 17–20 black-tipped grayish radial spines, the upper ones clustering and brush-like, the lower ones shorter and spreading, to ¾in long. There are four central spines similarly colored and up to 1in in length. Day flowering, in summer, the flowers are chrome yellow, 1½–1¾in in diameter. Needs bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Coahuila).*

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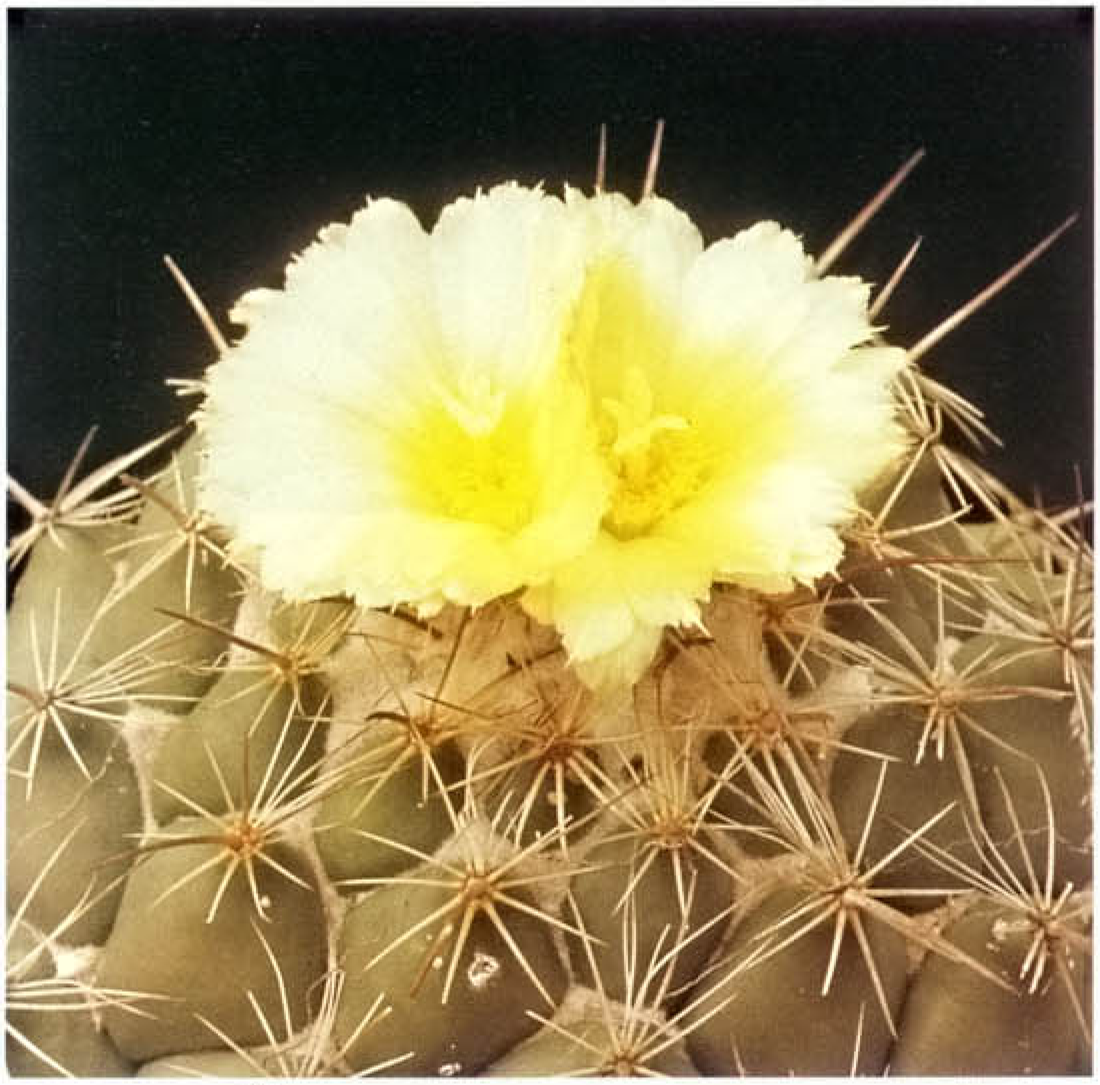

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CORYPHANTHA **LONGICORNIS** Böed.

More or less globular in shape and up to 8in long, 4in in diameter, this plant is grayish green with cone-shaped tubercles ⅔–¾in long and bare axils. Areoles carry about 12 dull whitish radial spines to ½in long and three centrals, which are brown, from ½–1in in length. Flowering in summer, the diurnal flowers are pale to deep yellow, about 1⅓in across. Requires good light; normal cactus compost with a few lime chippings added; minimum temperature 50°F. *Mexico (Durango).*

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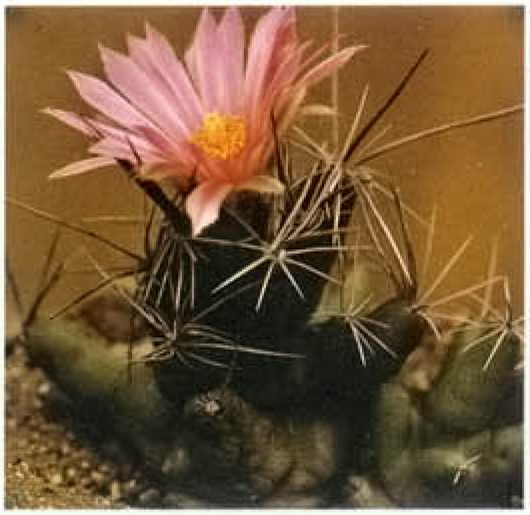

CORYPHANTHA **MACROMERIS** (Engelm.) Lem.

A clustering globular species. Each stem is up to 8in tall, 3–3¼in thick, and is grayish green, with cylindrical tubercles up to 1in long. Areoles bear 10–17 reddish radial spines which become white, tipped brown, and are ½–1½in long; there are one to four blackish-brown centrals ¾–2in in length. Flowering in summer, the flowers are diurnal, and about 3¼in across, with toothed, deep pink petals. Needs good light; normal cactus compost; minimum temperature 50°F. *USA (Texas, New Mexico), Mexico.*

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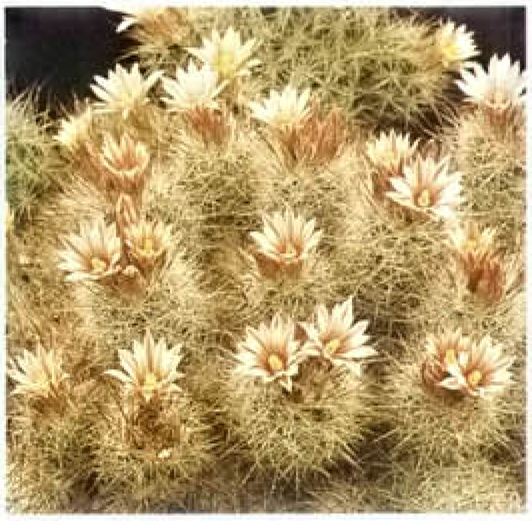

CORYPHANTHA **MACROMERIS var. RUNYONII** (Br. & R.) L. Benson
Syn: *Lepidocoryphantha runyonii* (Br. & R.) Backeb.

The grayish-green stems are small and cylindrical, in dense clumps to about 1½ft wide. They have rounded tubercles ½–¾in long. Radial spines are yellowish to reddish orange; there are six to seven up to 1in long and one to three central spines the same color and size. Flowers appear in mid-summer, are diurnal, pinkish purple, and up to 2in wide. Requires full sun; slightly calcareous cactus compost; minimum temperature 50°F. *USA (Eastern Texas).*

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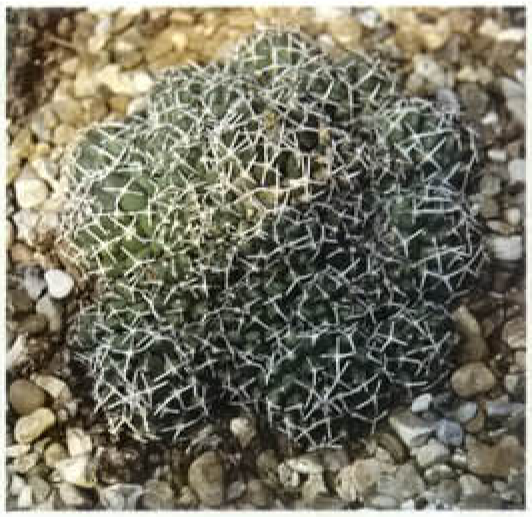

CORYPHANTHA **MAIZ-TABLASENSIS** Backeb.

A globular species which clusters freely. Each bluish-green stem is up to 2¼in wide with tubercles about ½in long. The six to seven grayish-white spines are all radials, about ½in long. The plant flowers in summer, and is diurnal; the flowers are pale yellow. Requires bright light; normal cactus compost; minimum temperature 50°F. *Mexico (San Luis Potosi).*

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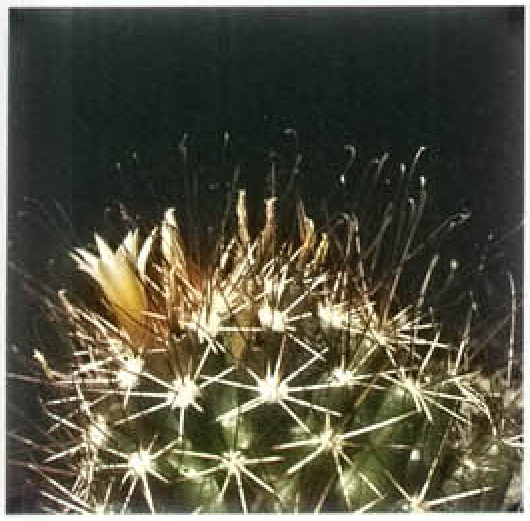

CORYPHANTHA **ODORATA** Böed.

Syn: *Neolloydia odorata* Backeb.; *Neobesseya odorata* Böed.

A clustering species; the stems are dark green, about 1in in diameter, tipped with dark spines. The tubercles are cylindrical, about ½in long, the axils are slightly hairy. Areoles bear seven to nine brown-tipped, white radial spines to ½in long and three to four brownish-yellow centrals, hooked, up to 1in in length. Day flowering in summer; the flowers are pale yellowish pink, ⅔in long, ½in across. Needs sun; normal cactus compost; minimum temperature 50°F. *Mexico (Tamaulipas, San Luis Potosi).*

CORYPHANTHA **OTTONIS** (Pfeiff.) Lem.

Syn: *Mammillaria golziana* Haage

A short, cylindrical plant to 4¾in high and about 3¼in thick, it is dark grayish green, with very thick grooved tubercles and woolly axils. Spines are yellowish; there are eight or more radials to ½in long, and one or more centrals, usually longer. Flowers are white or pale yellowish, about 2in across, and appear by day, in summer. Needs good light; normal cactus compost; minimum temperature 50°F. *Mexico (Hidalgo).*

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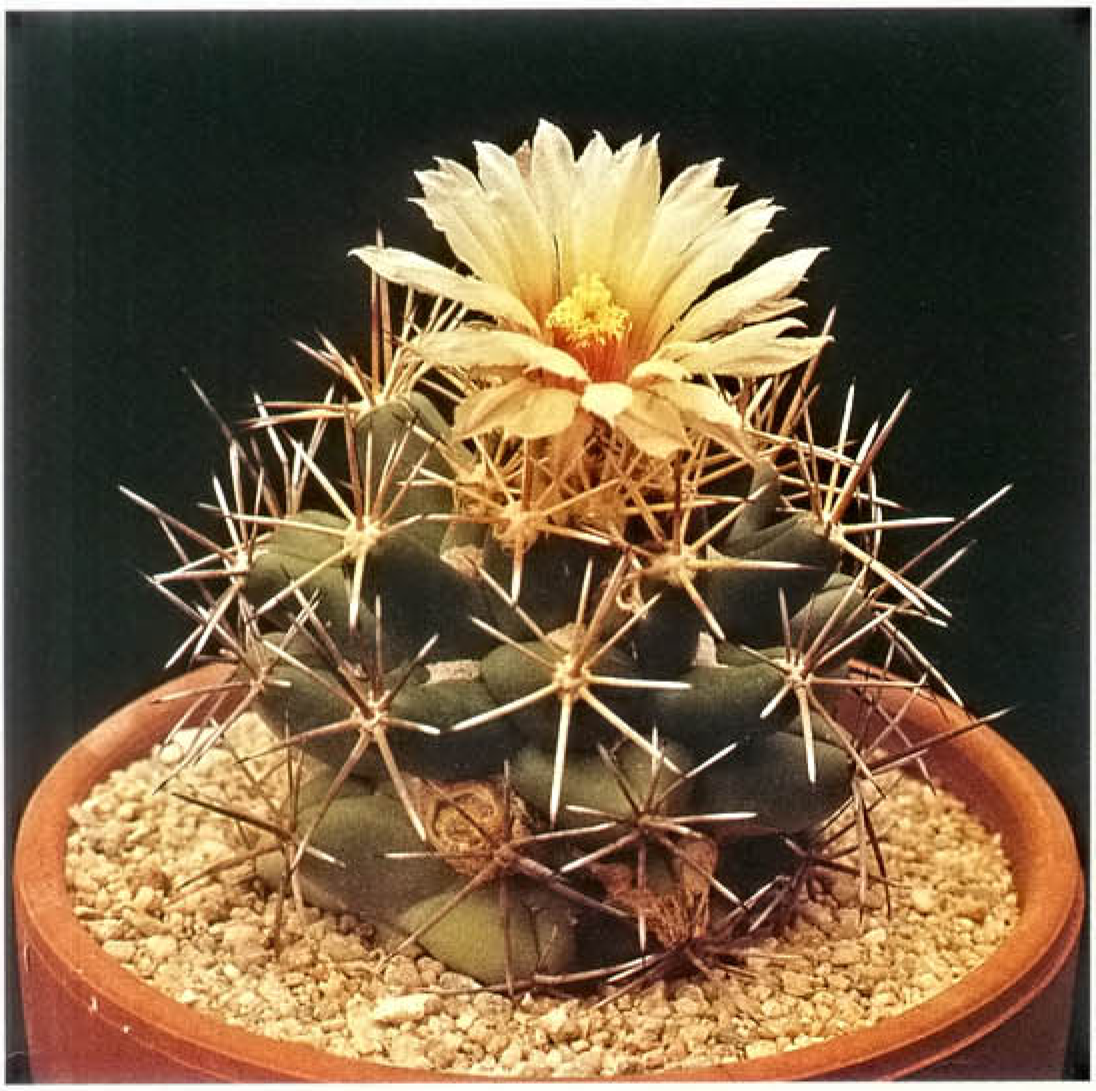
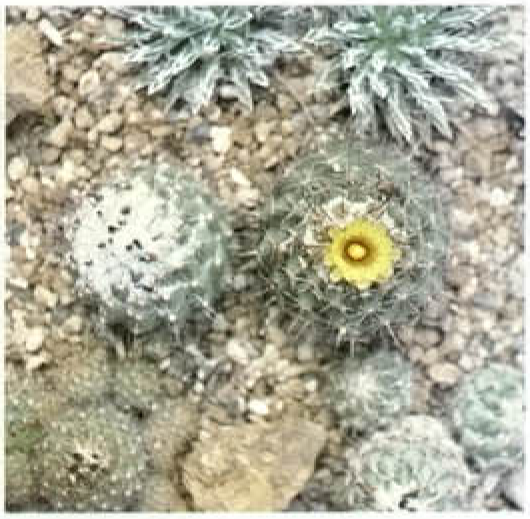
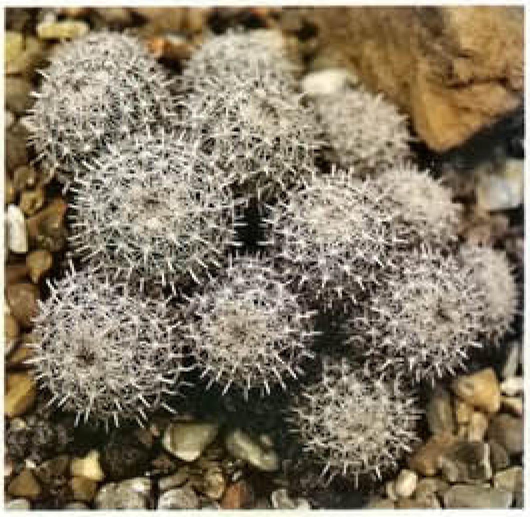




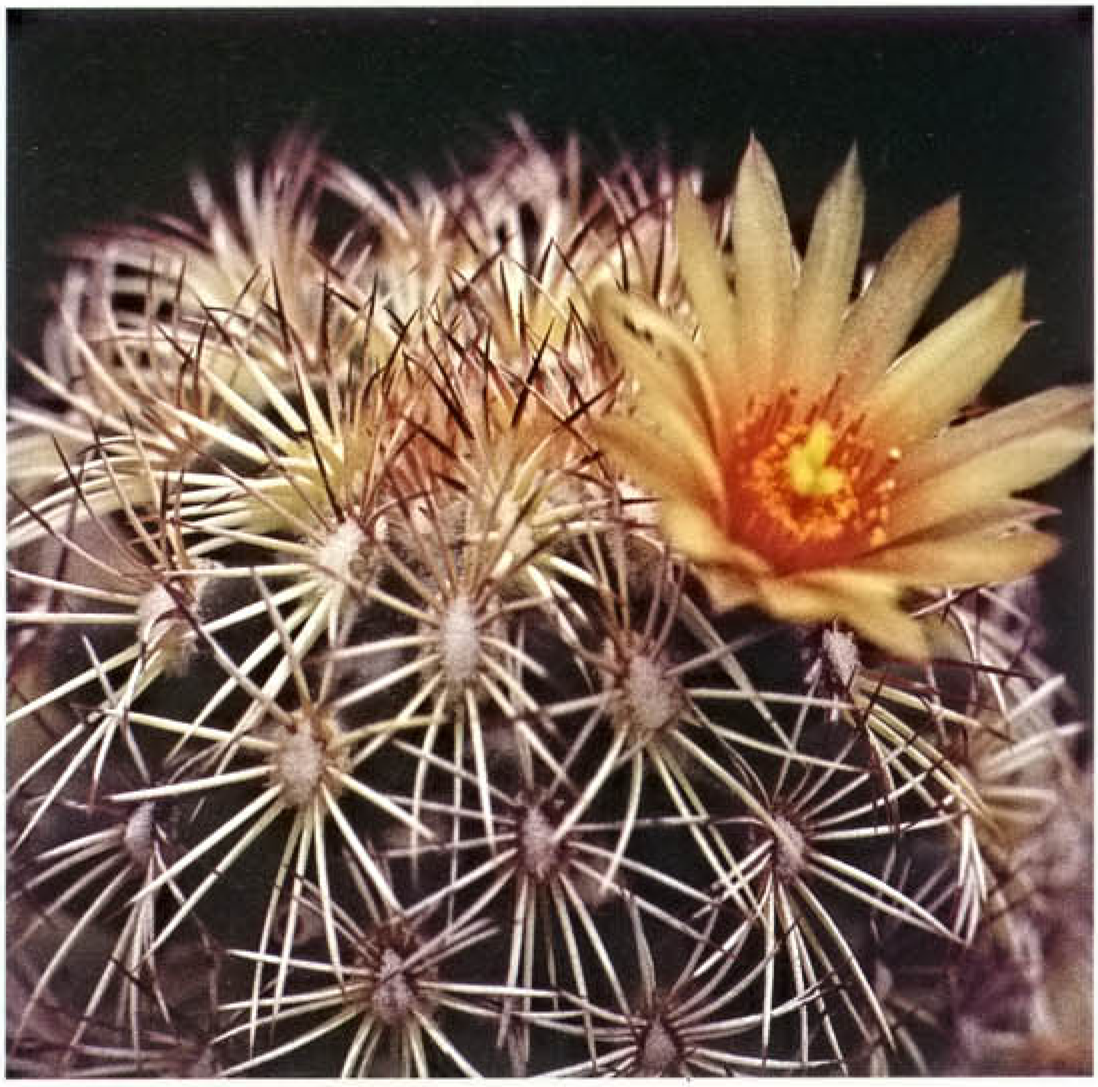
CORYPHANTHA **PALLIDA** Br. & R.

A globular, bluish-green plant to about 4¾in thick, enclosed with closely set tubercles. There are about 20 whitish radial spines and one to three centrals, the lowest one tipped reddish-brown and downward pointing. Day flowering in summer, the flowers are 2–3in across and are bright yellow, with reddish stamens and yellow style and stigma lobes. Requires bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Tehuacan).*



CORYPHANTHA **PALMERI** Br. & R.

The plants are solitary or offsetting, with pale-green, globular-elongated stems 3¼–4in thick. Tubercles are spirally arranged, and the areoles, which are white and woolly when young, carry 11–14 black-tipped yellowish radial spines and one hooked, downward-pointing, brownish central ½–¾in long. The plant is summer flowering and diurnal, with yellow flowers 1–1½in long. Requires bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Durango).*



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CORYPHANTHA **POTOSIANA** (Jacobi) Glass & Foster
Syn: *Mammillaria potosiana* Jacobi

More or less globular, grayish-green plants to 3¼in in diameter. The tubercles are conical, ⅓in long, ⅕in wide at the base, and the grooves at the base of the tubercles bear two to three pale orange glands; the axils are woolly. There are 12–18 radial spines which are whitish, tipped brown, and rarely a central spine; all are ⅔–¾in long. Flowering in summer, the flowers are diurnal and about ¾in long and wide. The inner petals are pale tan to cream, and the outer segments purplish red with cream margins. Requires full sun; normal cactus compost; minimum temperature 55°F. *Mexico (San Luis Potosi).*

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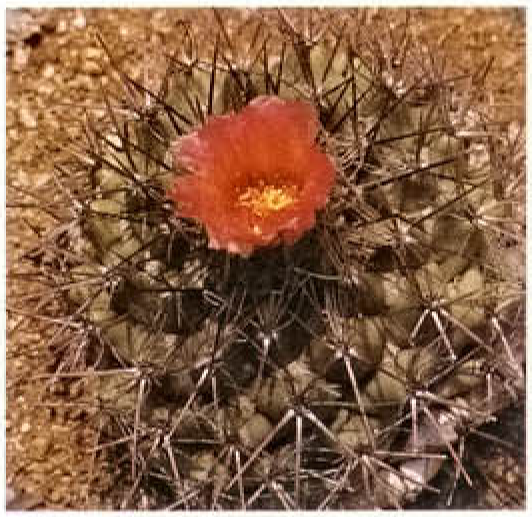

CORYPHANTHA **POSELGERIANA** (Dietr.) Br. & R.
Syn: *Echinocactus poselgeriana* Dietr.

Globular plants of bluish grayish green to 8in high with angular tubercles to ¾in long and bare axils. The radial spines are reddish brown, five to seven in number and ¾–2in long. There is one similarly colored central but it has a white tip, to 2in long. Summer flowering, and diurnal, the flowers are 1½–2½in long and deep pink, rarely yellow. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Coahuila).*

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CORYPHANTHA **PULLEINEANA** (Backeb.) Glass
Syn: *Neolloydia pulleineana* Backeb.

A somewhat cylindrical, dull green plant to 8in long, ⅔in thick, with roundish-conical tubercles. Spines are brownish to black; there are about 18 radials to ½in long and three to four centrals to ¾in long. It is diurnal, flowering in summer, with bright yellow to orangish flowers. Requires sun; normal cactus compost with few lime chippings added; minimum temperature 55°F. *Mexico (San Luis Potosi).*

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CORYPHANTHA **RADIANS** (DC.) Br. & R.
Syn: *Mammillaria radians* DC.

Dull green, globular or oval-shaped plants, 2–3in in diameter, offsetting in maturity. The tubercles are cone-shaped, and the axils woolly but becoming bare. Spines are yellowish white tipped brown, consisting of 12–20 fine radials to ½in long but no centrals. Appearing in mid-summer, the flowers are diurnal, 2½–3in broad, and citron yellow in color, the outer segments tipped reddish with a greenish median line. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Hidalgo).*

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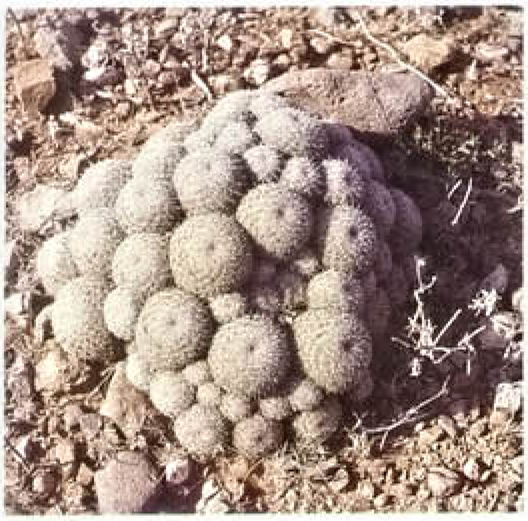
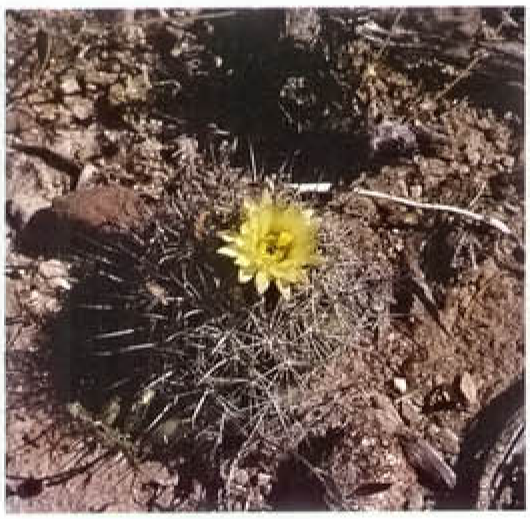


CORYPHANTHA **RECURVATA** (Engelm.) Br. & R.

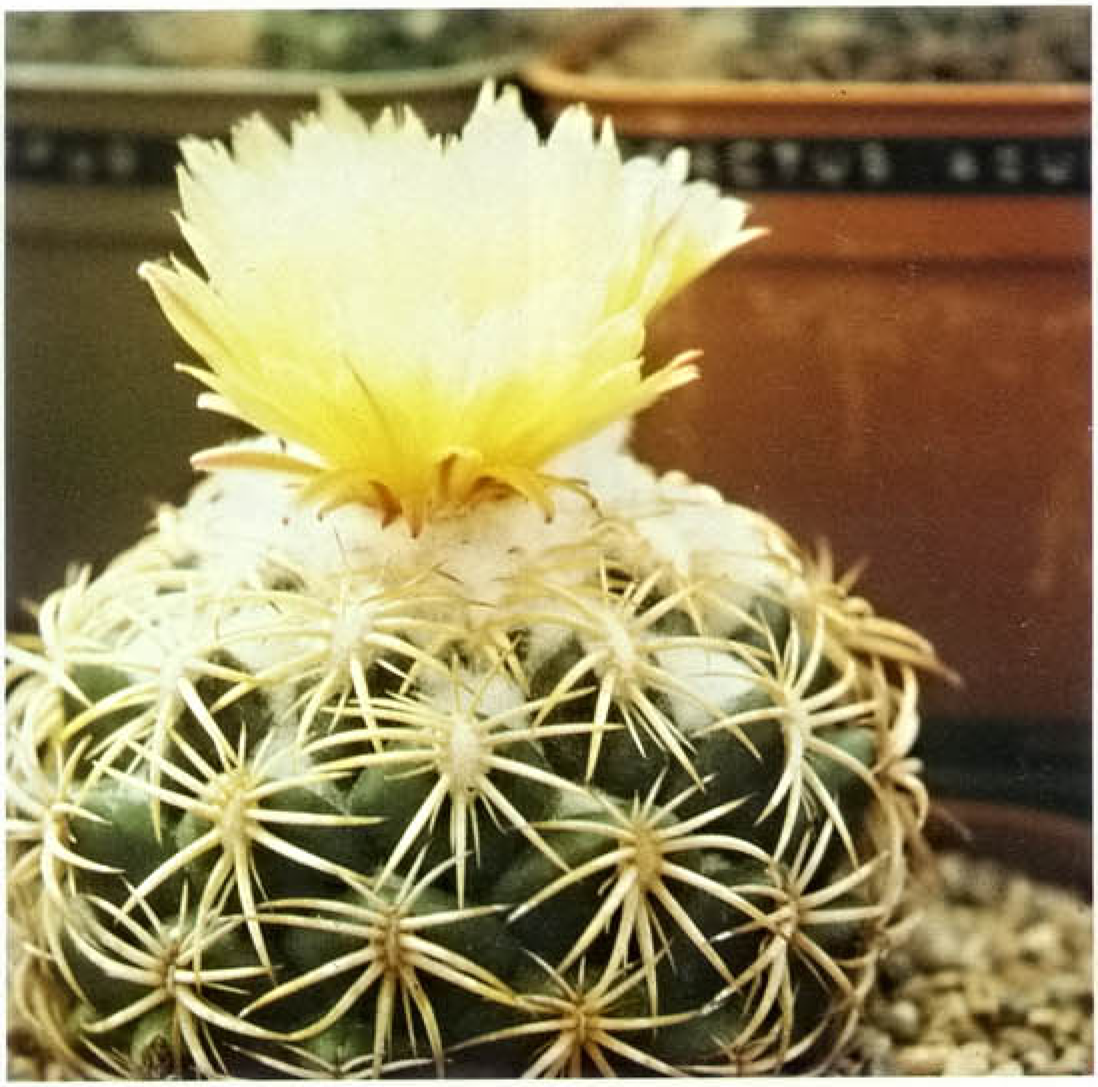
Syn: *Mammillaria recurvata* Engelm.

A densely clustering species; each globular stem is 4–8in thick, and bluish green. The tubercles are conical, about ½in long, with bare axils. There are 20–25 yellowish-gray radial spines, arranged comb-like, up to ½in long, and one to two similarly colored central spines, to ¾in in length. Flowers appear in summer, and are diurnal, yellow in color, funnel-shaped, and 1⅓in long. Requires full sun; slightly calcareous cactus compost; minimum temperature 50°F. *USA (Arizona), Mexico (Nogales).*



CORYPHANTHA **SALM-DYCKIANA** (Scheer) Br. & R.

A globular plant 4–6in broad, often offsetting from the base. The tubercles are four-edged, about ½in long, pale to grayish green, and the axils are woolly. There are seven to fifteen grayish-white radial spines ½–⅔in long and one to four almost black centrals, ¾–1in in length. Flowering in summer, diurnal; flowers are about 1½in long, funnel-shaped, with yellow inner petals and outer segments yellowish green edged reddish. Needs bright light; slightly calcareous cactus compost; minimum temperature 50°F. *Mexico (Chihuahua).*



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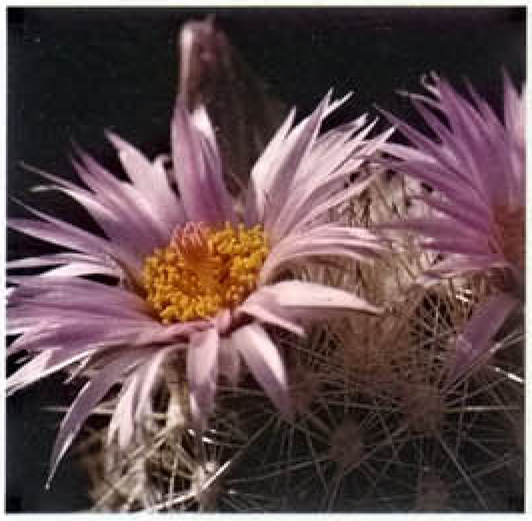
CORYPHANTHA **SCOLYMOIDES** (Scheidw.) Berger

Syn: *Coryphantha cornifera* (DC.) Lem. var. *scolymoides* (Scheidw.) Borg

A rather bluish-green globular species, the stems set very closely together, tending to be upward pointing. Areoles are woolly with 12–20 yellowish radial spines to ¾in long and one to four darker colored centrals about 1⅓in in length. It is day flowering in summer; the blooms are yellow, about 2in in diameter. Needs sun; normal cactus compost; minimum temperature 50°F. *Northern Mexico.*

CORYPHANTHA **VILLARENSIS** Backeb.

A dark grayish-green solitary, globular species up to about 6in high, 5in in diameter. The tubercles, about 1in long, are cone-shaped, and the axils initially woolly, later bare. The yellowish-gray radial spines number nine to eleven and are ⅕–⅔in long; there is one similarly colored central to 1in in length. It is a summer-flowering plant, and diurnal; the flowers are bright yellow, 1½in long, 2in in diameter. Requires sun; normal cactus compost; minimum temperature 55°F. *Mexico (San Luis Potosi).*



CORYPHANTHA **VIVIPARA** (Nutt.) Engelm
Syn: *Escobaria vivipara* (Nutt.) Buxb.

The plants are globular to short, cylindrical, and are about 5in high, 2in in diameter, grayish with tubercles somewhat cylindrical in shape, and white woolly axils. The radial spines are white, about 16 in number, with one to six brownish centrals, all to about ¾in long. Summer flowering and diurnal, the flowers are a pale reddish purple, about 1⅓in long and 1½–2in broad. Must be kept dry in winter. Requires bright light; normal cactus compost; minimum temperature 45°F. *Canada (Manitoba, Alberta), USA (Kansas to Northern Texas).*

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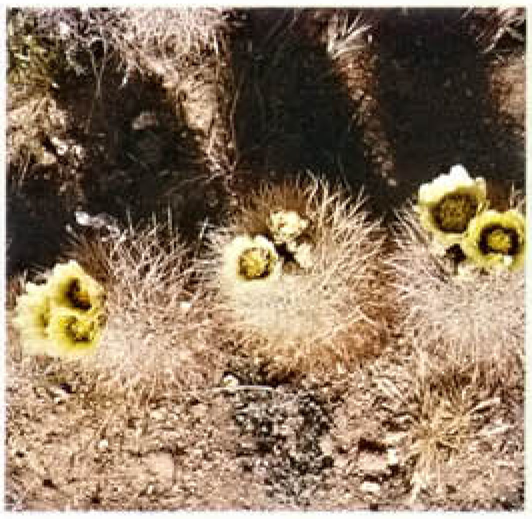

CORYPHANTHA **VIVIPARA var. DESERTII** (Engelm.) W. T. Marsh.
Syn: *Coryphantha desertii* Br. & R.

A globular, elongating plant 4–5½in high, 2½–3¼in wide. Glaucous green and usually solitary, it is densely covered with numerous spines, 12–20 white radials ½in or more long, and four to six white, red-tipped centrals, to ¾in in length. The flowers, yellowish green and about 1in in diameter, are diurnal, appearing in summer. Requirements are the same as for the species. *USA (Arizona, Southeastern California).*

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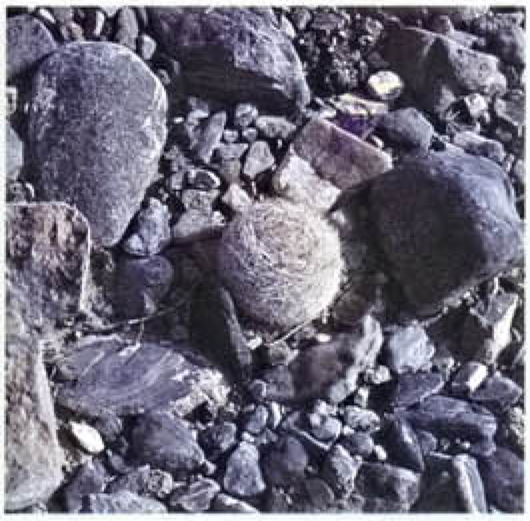

CORYPHANTHA **VIVIPARA var. ROSEA** (Clokey) L. Benson
Syn: *Coryphantha rosea* Clokey

A solitary, rarely branching plant, 3¼–5in long, 3¼–10in in diameter. It is dark green and densely covered with white spines consisting of 12–18 radials to ½in long and 10–12 centrals, usually tipped red, to 1in in length. The flowers, about 2in in diameter, are magenta to purplish; they appear in summer, and are diurnal. Requirements are similar to those for the species, but compost should have lime added. *USA (California, Nevada etc).*

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CORYPHANTHA **WERDERMANNII** Böed.

Stems are almost oval in shape to about 2½in in diameter, grayish green, and rarely offsetting. The tubercles are pyramid-shaped, ⅓in long, and the axils bare. There are 15–20 or more whitish radial spines to ¼in long and one to four brownish-gray centrals, ¾in or more long. Appearing in summer, the funnel-shaped flowers are diurnal and a pale golden yellow up to 2½in long. Requires full sun; normal cactus compost with a little lime added; minimum temperature 50°F. *Mexico (Coahuila).*

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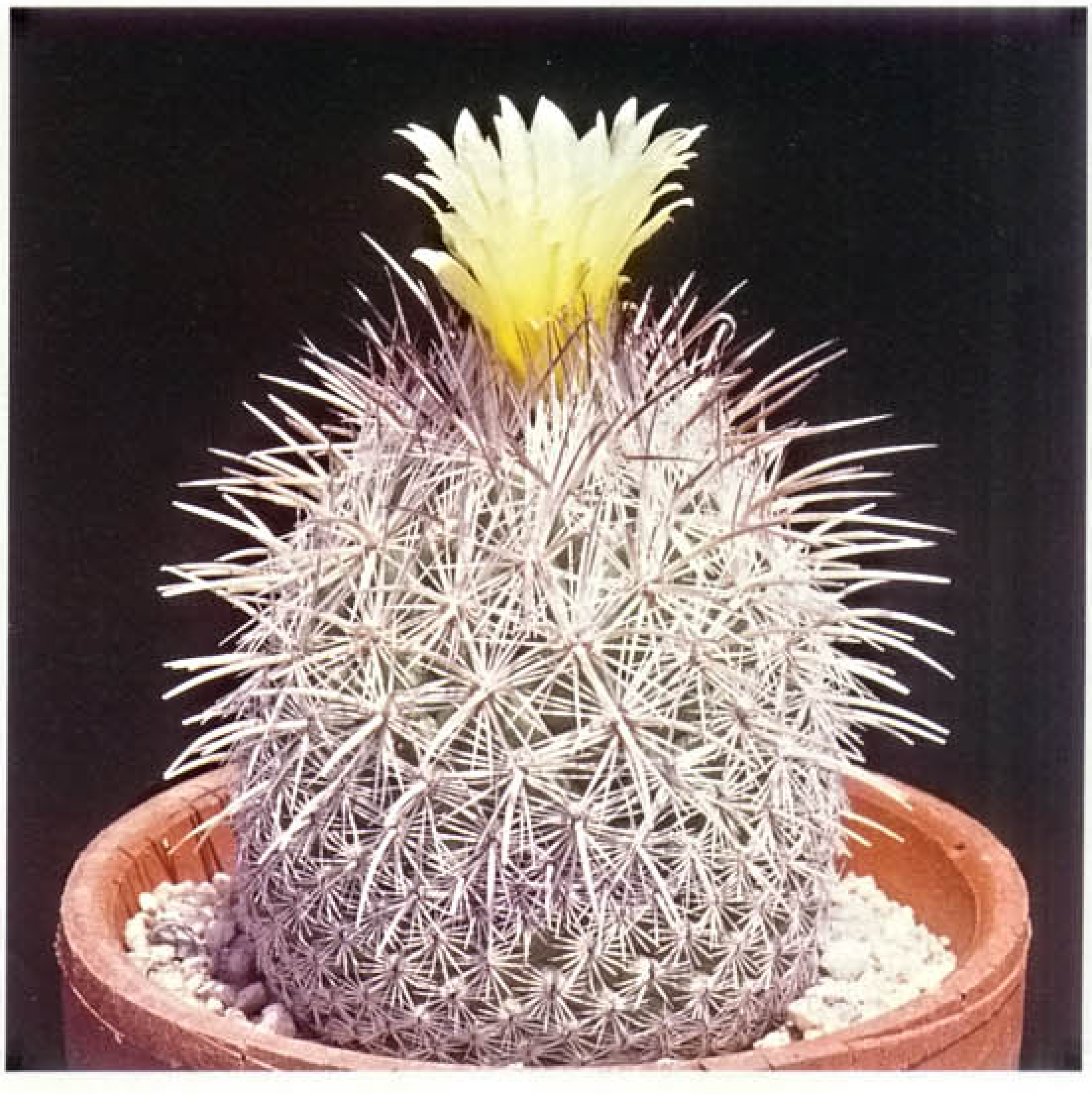
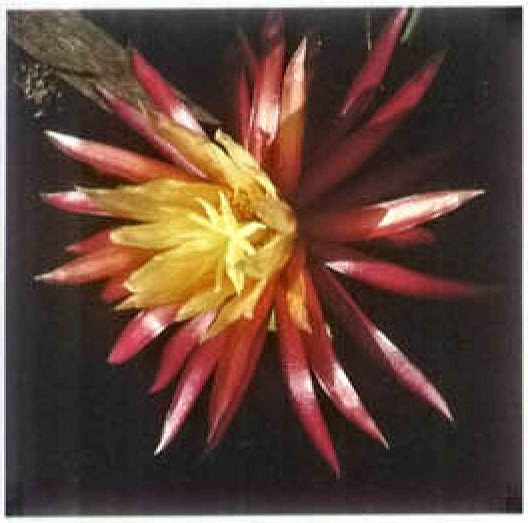
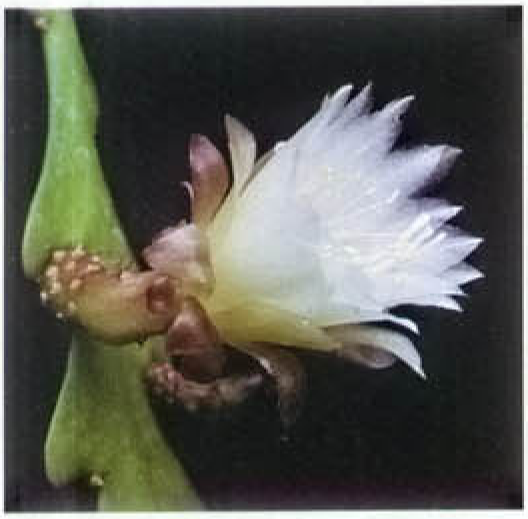


CRYPTOCEREUS



CRYPTOCEREUS **ANTHONYANUS** Alex.

An epiphytic species with bright green leaf-like, flat stems 1–1½ft or more long, 3–6in wide. The stem margins have indentations 1⅓–1¾in deep, forming lobes. Areoles bear minute spines, which are often absent. Flowers are nocturnal in summer, about 4¾in long, with yellowish or creamy white inner petals, maroon-red outer petals. Requires partial shade; a fairly acid, orchid-like, compost; minimum temperature 59°F. *Mexico (Chiapas).*



CRYPTOCEREUS **IMITANS** (Kimnach & P. C. Hutch.) Backeb.
Syn: *Werckleocereus imitans* Kimnach & P.C. Hutch.; *Weberocereus imitans* (Kimn. & P.C. Hutch.) D. R. Hunt

Thick, leaf-like stems to 3ft long, 4–6in wide, often serrated, forming lobes. Areoles of white wool, rarely bearing one to three spines 1/16–⅕in long. The flowers are creamy, up to 3in long, the inner petals form a trumpet shape, the maroon outer segments recurved. An epiphyte, night flowering in spring, it needs partial shade; normal cactus compost plus leaf mold; minimum temperature 59°F. *Costa Rica.*

DENDROCEREUS

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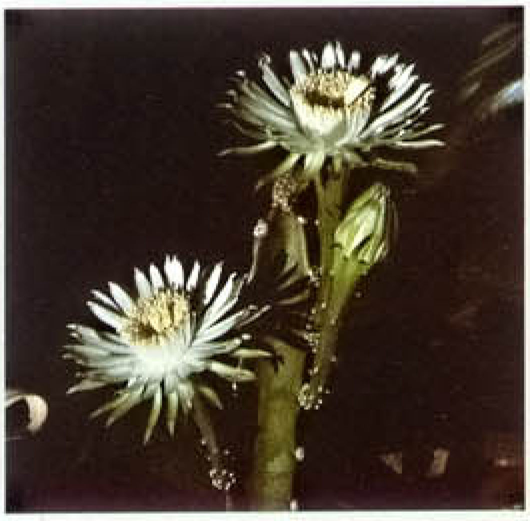
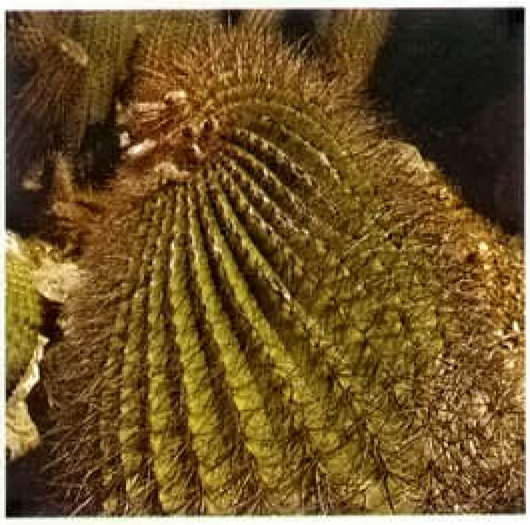


DENDROCEREUS **NUDIFLORUS** (Engelm.) Br. & R.

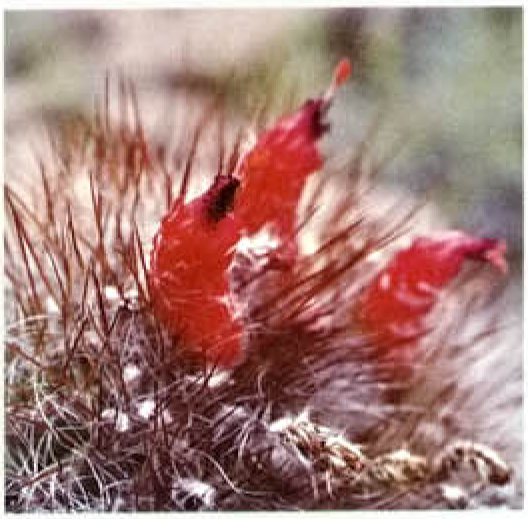
Likely to be reclassified within *Acanthocereus*. A night-flowering columnar plant to about 33ft high, almost tree-like with branches developing from the top. The trunk is about 3ft long, 2ft thick with three to five dull-green ribbed branches about 4¾in thick. Areoles are white felted bearing two to fifteen spines up to 1½in in length. The flowers, appearing in summer, are 4–4¾in long, with white, widely spreading petals and a ring of numerous stamens. Requires full sun; normal cactus compost; minimum temperature 64°F. *Cuba.*

DENMOZA



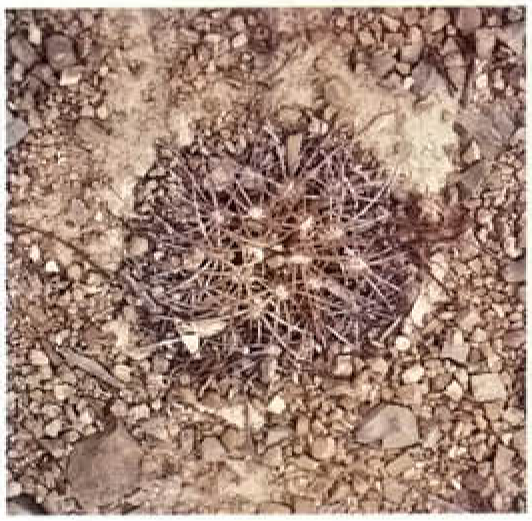
DENMOZA **ERYTHROCEPHALA** (K. Sch.) Berger

A grayish-green globular to elongated species, up to 4ft 9in high in the wild, 6in–1ft in diameter. Always solitary, with 20–30 low, rounded ribs, deeply furrowed. There are 30 or more reddish-brown spines, up to 2½in long; the younger brown areoles have flexible, hair-like bristles and whitish wool. Day flowering in summer. Flowers are tubular to 3in long; the petals, ½in long, are closed together with style, stamens, and stigma lobes exserted. All are red. Needs sun; normal cactus compost; minimum temperature 50°F. *Argentina (Mendoza).*



DENMOZA **RHODANTHA** (Salm-Dyck) Br. & R.

Considered by certain taxonomists as being synonymous with *D. erythrocephala*. Generally a smaller plant up to 6⅓in wide and tall, having about 15 deeply furrowed ribs. Areoles bear brownish-red, later grayish, spines, eight to ten radials, and often one central, all to about 1in long. The flowers are red, 3in long, and more or less tubular in shape, with protruding style, stamens, and stigma lobes. They appear by day in summer. Requires a sunny and airy position; normal cactus compost; minimum temperature 50°F. *Argentina (Mendoza).*



DISCOCACTUS BAHIENSIS Br. & R.

Globular plants about 3¼in in diameter with up to 10 ribs. The areoles bear seven to nine spreading spines ½–1in in length, and the cephalium is composed of short bristles. Night flowering in summer, the flowers are yellowish white and 1½–2in long. Careful watering is essential at all times. Requires bright light; normal cactus compost; minimum temperature 61°F. *Brazil (Bahia).*

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DISCOCACTUS BOLIVIENSIS Backeb. Buin. & Bred.

A dark green, compressed globular species 10–11½in in diameter, to 6in high. It has 12–13 ribs with four to five areoles along each rib bearing five white or yellow, later gray, spines to 1in long. The cephalium, up to 3in high, is white and hairy but has no bristles. The flowers are 2in long, white with pale pink outer petals, and appear at night in summer. Needs very careful watering; a fairly sunny position; normal cactus compost; minimum temperature 61°F. *Border area of Brazil and Bolivia.*

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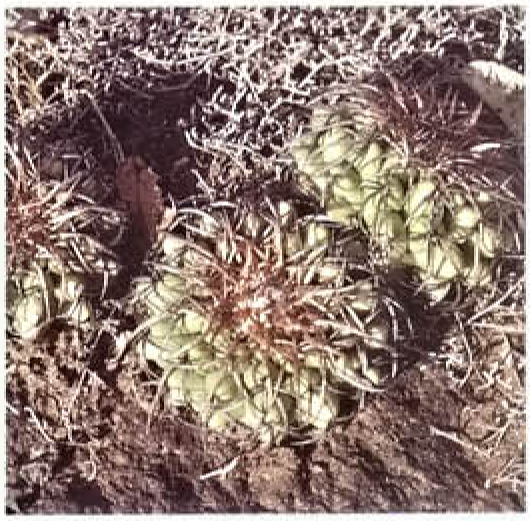

DISCOCACTUS CANGAENSIS Diers & Esteves

Named from the iron oxide outcrop formation called "Canga." Rather flat to 5½in in diameter, grayish green, with 10–14 ribs divided into rounded tubercles. Areoles bear grayish, brownish, or reddish spines, five to nine radials up to 2in long, and rarely one thick central 1in in length. The cephalium is whitish to yellowish with yellowish or brownish bristles. The flowers, funnel-shaped to 3in long, are white and nocturnal in summer. Needs careful watering; an enriched gritty compost; full sun; minimum temperature 61°F. *Brazil (Goias).*

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DISCOCACTUS CEPHALIACICULOSUS Buin. & Bred.

A somewhat flattened globular plant 5in high, 8–10in in diameter with 13–18 prominent tuberculate ribs. The spines are horn-colored becoming dark gray, consisting of up to six radials 1½in long, and rarely one central to 1in and the cephalium is covered in white wool with protruding reddish spines. Night flowering in summer, the flowers are white, to 1½in long, about 1in across. Requires normal cactus compost; a bright location; minimum temperature 61°F. *Brazil (Goias).*

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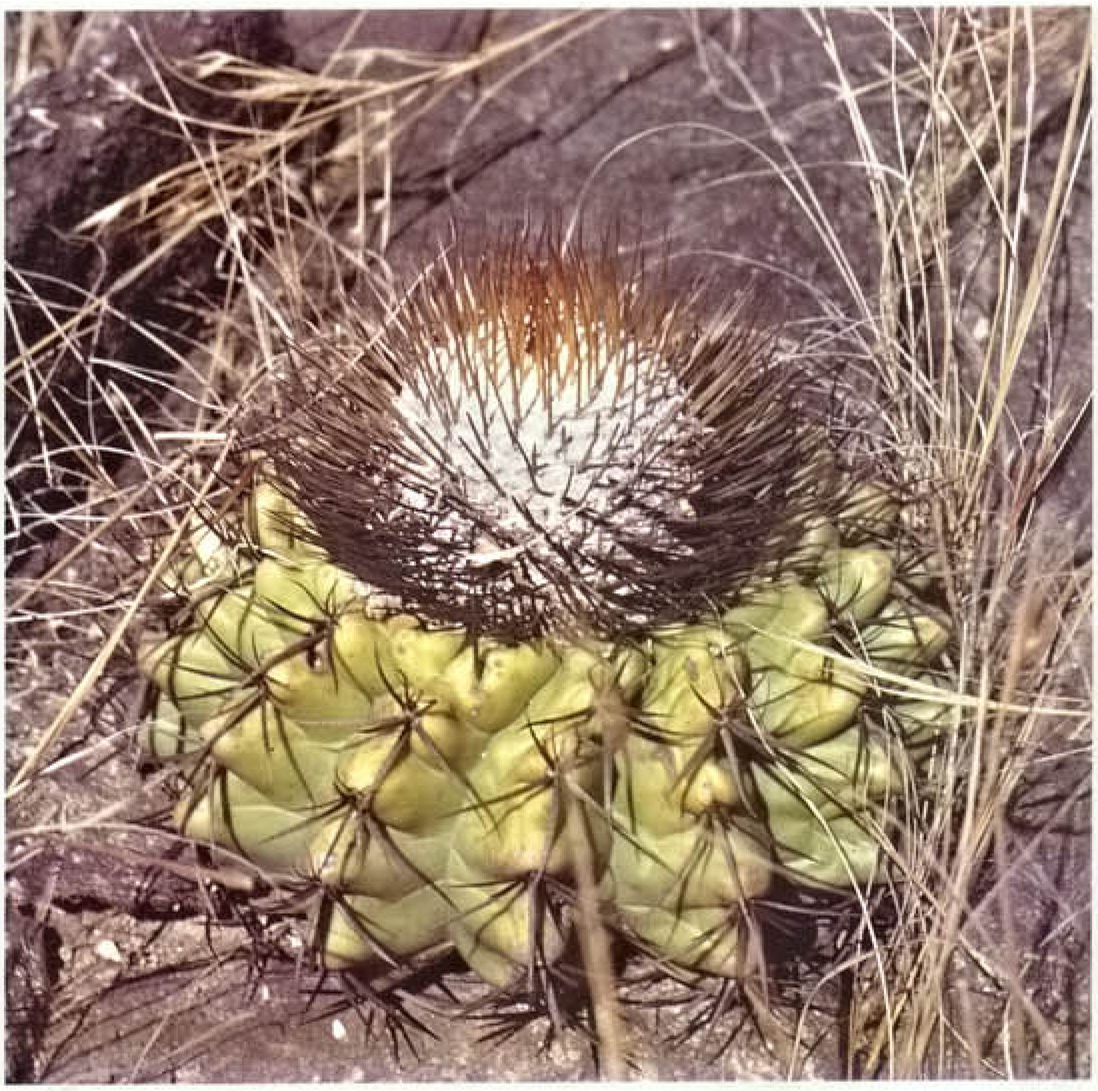
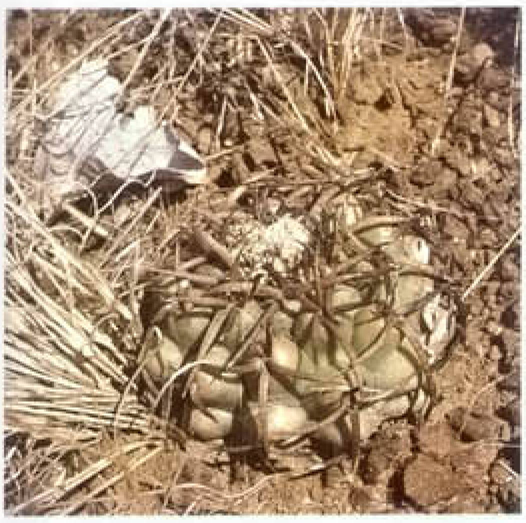


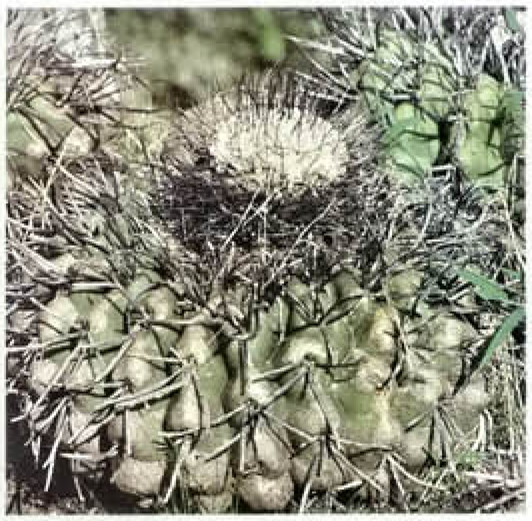


DISCOCACTUS **CRASSISPINUS** Braun & Esteves

A dull-green plant from mountainous areas, it is a flattened globular shape and about 6in in diameter, with about 15 bumpy ribs and prominent and rounded tubercles. Spines are brownish with transverse lines, four to six in number and widely spreading. The cephalium is of white wool with slightly protruding reddish-brown bristles. Night flowering in summer, the flowers are white. Needs a bright sunny position; normal cactus compost; minimum temperature 61°F. *Brazil (Goias).*

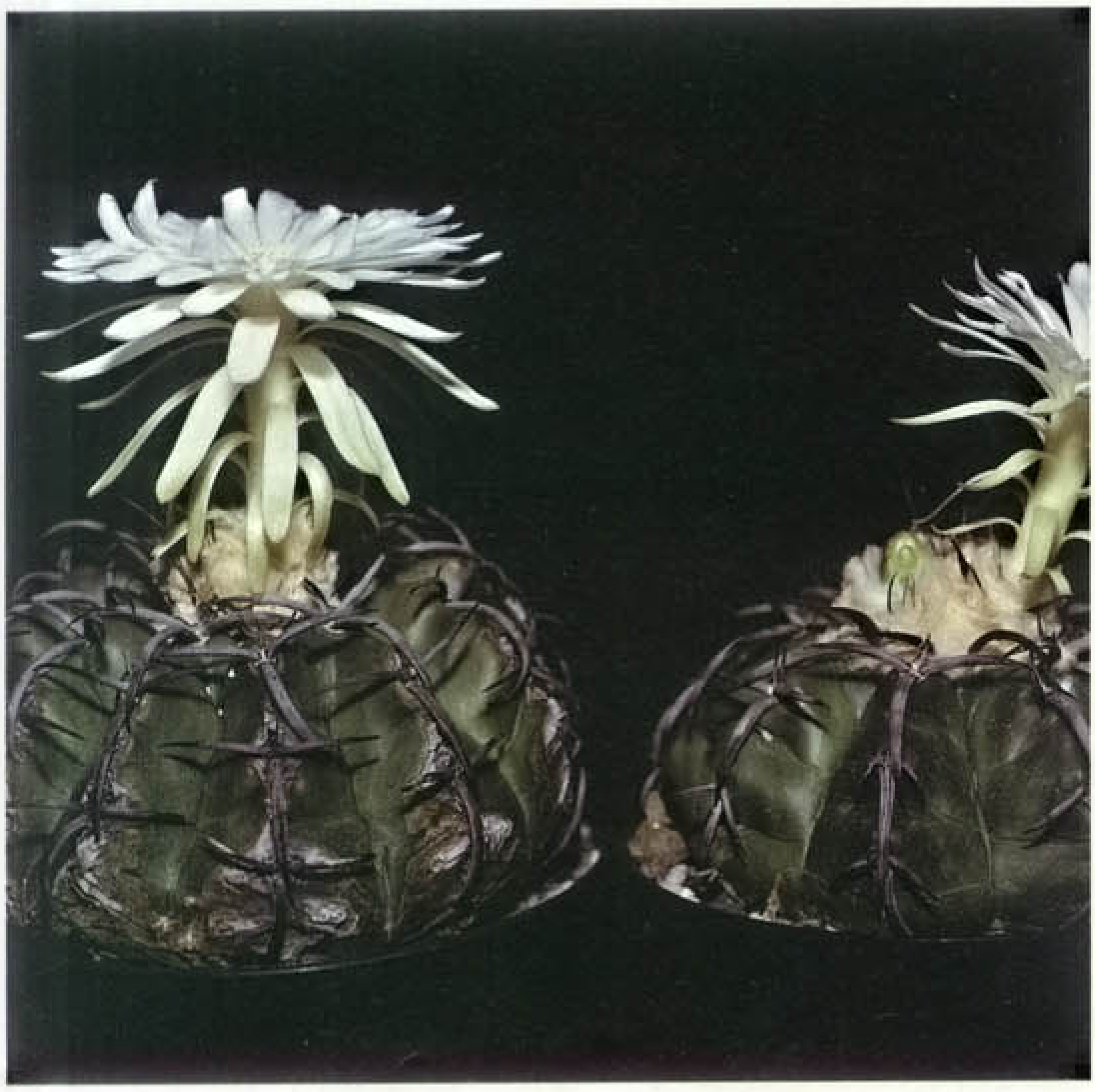
DISCOCACTUS **CRYSTALLOPHILUS** Diers & Esteves

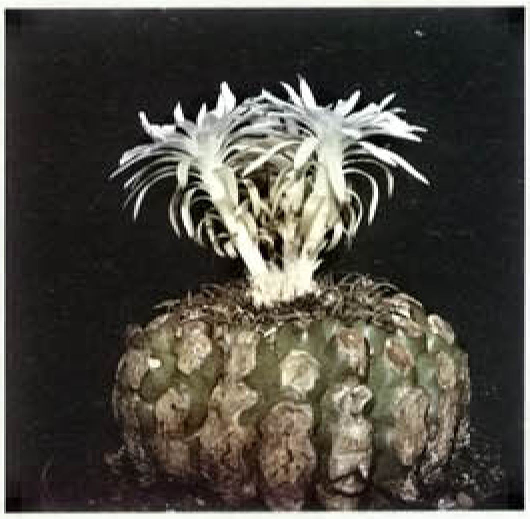
A dark green globular species about 3½in in diameter with 10–12 ribs, slightly tubercled. The areoles bear about four blackish-gray spines and the cephalium is covered in dense white wool. Flowers, nocturnal in summer, are white with widely spreading segments. The plant is so named on account of its habitat of pure quartz crystals. Requires full sun; slightly calcareous cactus compost; minimum temperature 61°F. *Brazil (Minas Gerais).*



DISCOCACTUS **DIERSIANUS** Esteves

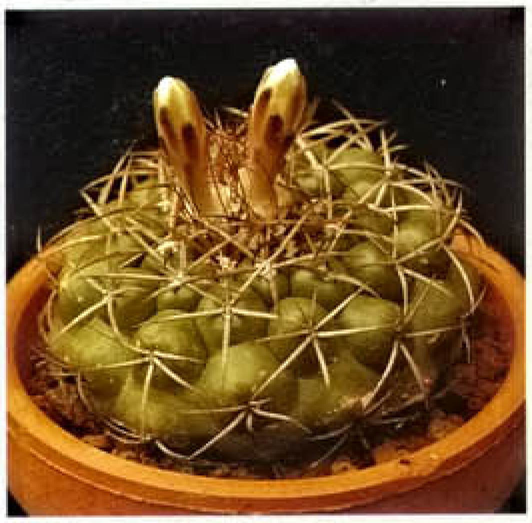
A flattened globose plant of olive to dark green, up to 10in wide, 4in high, with 14–18 rounded, tuberculate ribs each bearing four to six areoles. Spines are grayish to blackish, and consist of four to ten radials up to 3¼in long, with occasionally one central to 1½in in length. The cephalium, up to 4in high, 3½in wide, consists of grayish yellowish-white wool and reddish-brown to black bristles. Flowers are nocturnal in summer; 2½in long, white, and have 55 or more flower segments. Needs full sun; an enriched mineral compost; minimum temperature 61°F. *Brazil (Goias).*





DISCOCACTUS **HARTMANNII** (K. Sch.) Br. & R. **var. GIGANTEUS** Braun

(Featured on the left.) More or less globular plants to 10in wide, 3½in high or more, with 18 or more ribs. Flowers are nocturnal, occurring in summer. Description is limited as the plant depicted was discovered in a fire-damaged area. Requires full sun; an enriched mineral compost; minimum temperature 61°F. The smaller plant portrayed is an undescribed species from Northern Mato Grosso. *Paraguay/Brazil.*



DISCOCACTUS HEPTACANTHUS (Rodr.) Br. & R.

A dull-green, somewhat rounded stem to 2½in high, 6⅓in in diameter, the whole stem divided into a series of prominent warts. The five to eleven spines, all radials, are grayish white and about ½–⅔in or more long. Flowers are nocturnal, appearing in summer from a cephalium about 2in wide, 1⅓in high consisting of wool and brownish bristles. The blooms are white, 2½in long, 2in across. Requires bright light; normal cactus compost; minimum temperature 61°F. *Brazil (Matto Grosso).*

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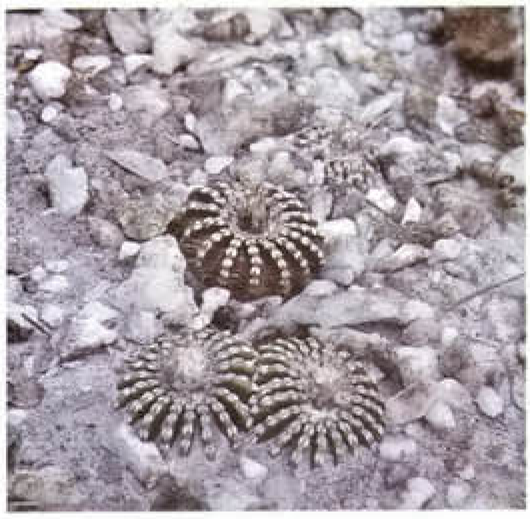

DISCOCACTUS HORSTII Buin. & Bred.

Flattened globular plants up to 2½in in diameter, ¾in high, they are brownish green with up to 20 prominent ribs. Areoles are fairly close-set, having about eight to ten grayish-white or brownish spines to ⅒in long, arranged like a comb. The cephalium is of white wool and bristly, about ¾in wide, ⅔in high. The nocturnal flowers are white, to 3in long, 2½in across, occurring in summer. Requires full sun; an enriched mineral compost; minimum temperature 61°F. *Brazil (Minas Gerais).*

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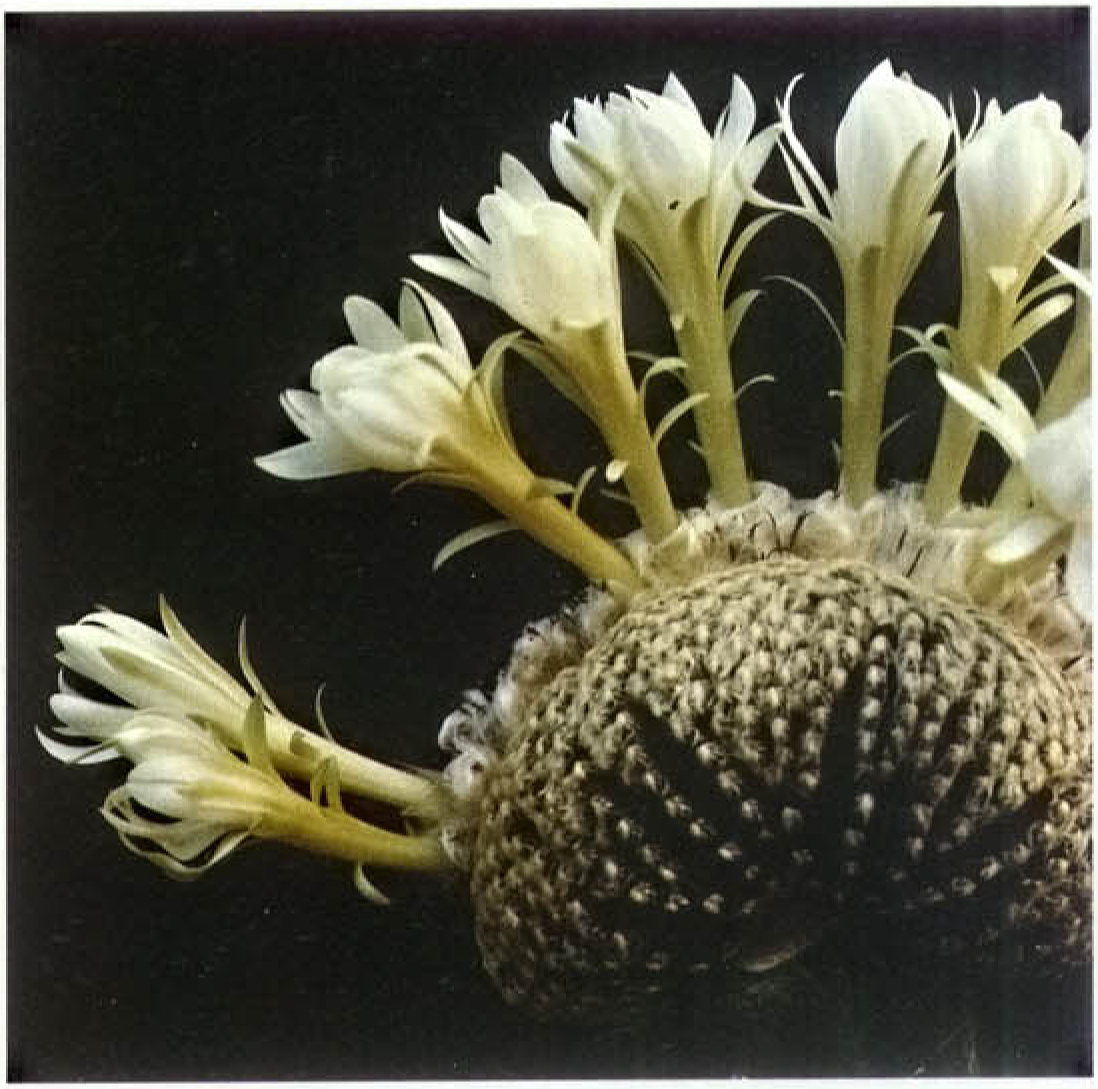

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DISCOCACTUS HORSTII fma CRISTATA hort.

On rare occasions a cristated form develops which is best maintained by grafting it on to *Trichocereus* stock. This procedure invariably results in several flowers appearing at one time. Requirements are the same as for the species.

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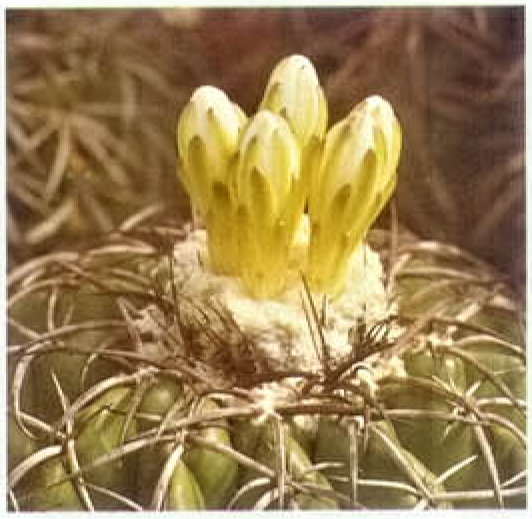

DISCOCACTUS MULTICOLORISPINUS Braun & Bred.

A novel species with a globular stem of dull green with 16 or more ribs and strong, multicolored spination, the spines mostly incurving. The cephalium is of white wool with few protruding reddish-brown spines. Night flowering in summer, the flowers are pale yellowish. Needs full sun; an enriched mineral compost; minimum temperature 61°F. *Brazil (Minas Gerais).*

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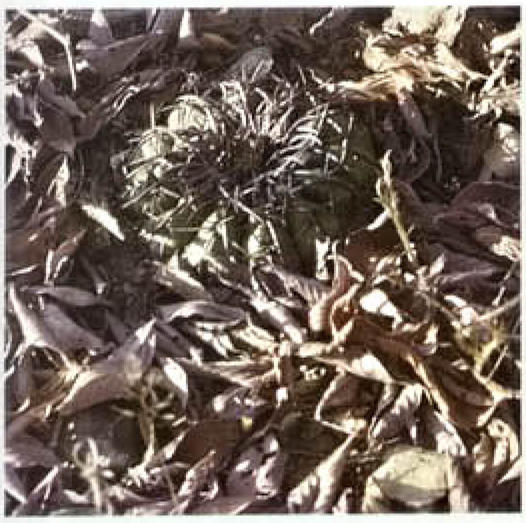
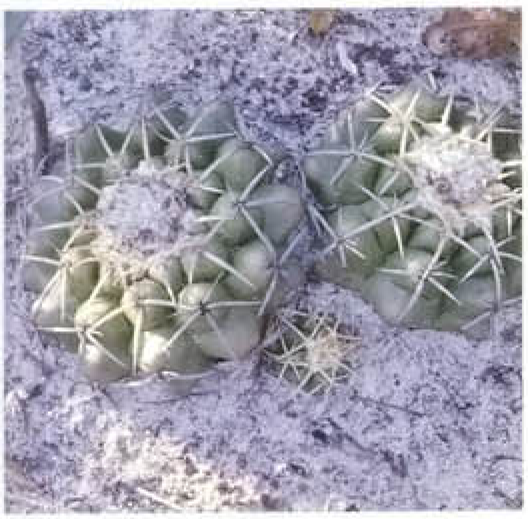


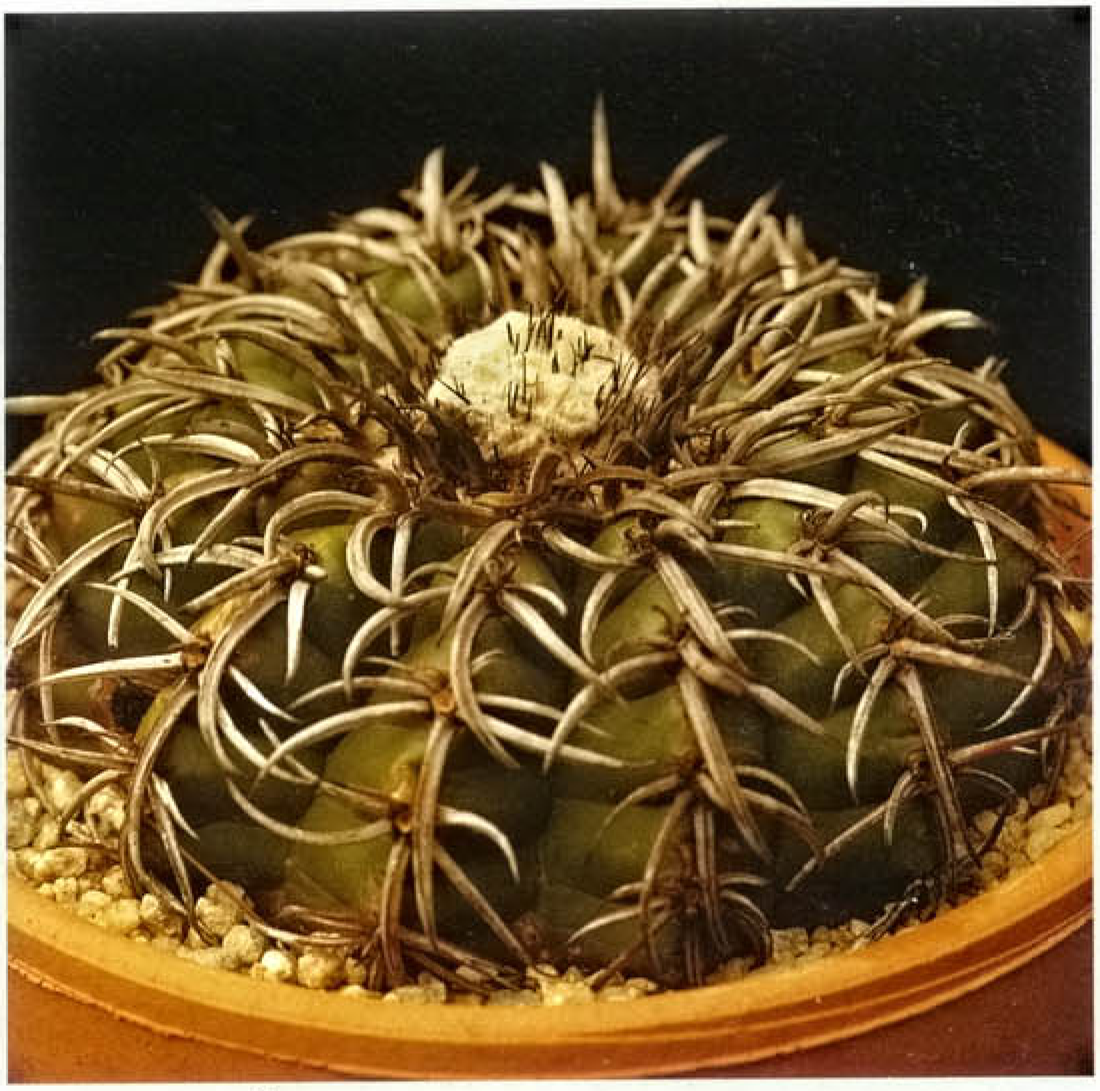
DISCOCACTUS **PSEUDOLATISPINUS** Diers & Esteves

A dark-green, flattened globose species, reportedly nearing extinction. Up to 8in in diameter with about 20 ribs, the spines are yellowish gray or brownish yellow. The nocturnal flowers are white arising in summer from a somewhat flattened cephalium. The picture of its habitat shows the plant hidden by leaves in an area endangered by development. Requires a fairly sunny position; normal cactus compost; minimum temperature 61°F. *Brazil.*



DISCOCACTUS **SUBTERRANEO-PROLIFERANS** Diers & Esteves

Now considered totally extinct in its native habitat, the area having been turned into pasture, this species is only rarely encountered in cultivation. It is a slightly flattened globular plant of grayish green covered completely with prominent rounded tubercles. There are five to seven pale brownish-white spines of varying size and there are spines protruding from the white woolly cephalium. Flowers are white, night flowering in summer. Requires full sun; normal cactus compost; minimum temperature 61°F. *Brazil (Rio Araguaia).*



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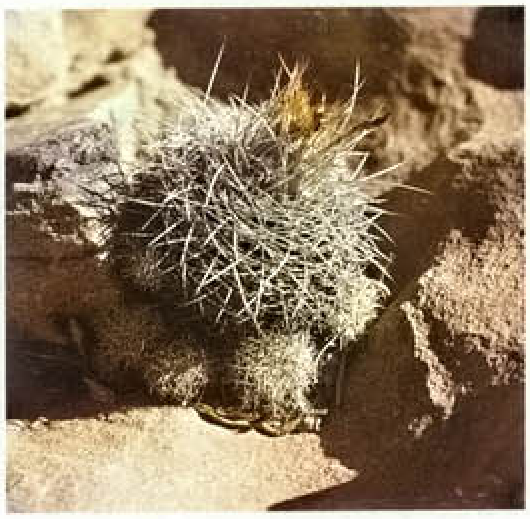
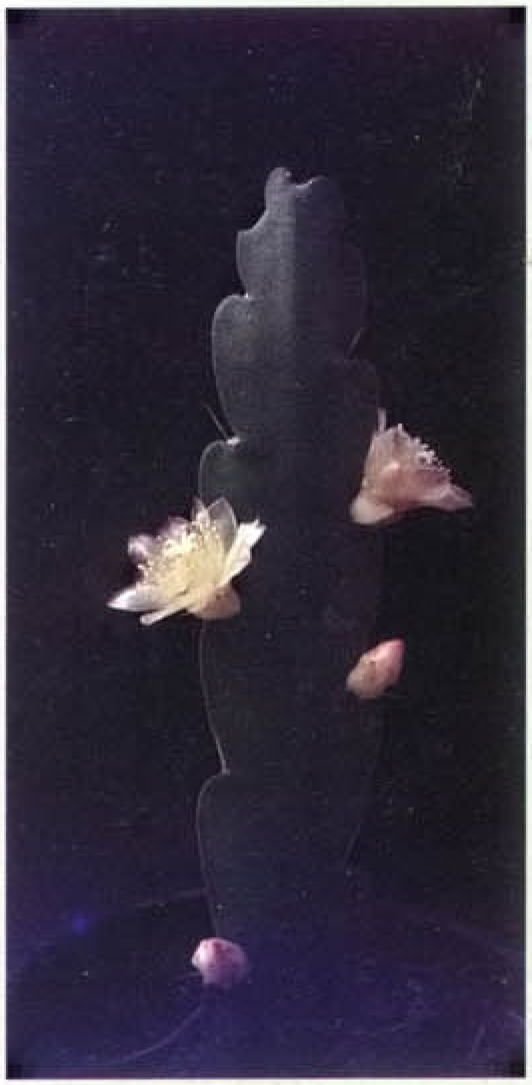
DISCOCACTUS **TRICORNIS** Monv.

The deep green stem is globular, depressed, and up to 3in high, 4in in diameter. There are 10–12 or more ribs with areoles bearing five to seven brownish-white spines, one being a very short central, the others curved to ¾in in length. The white, woolly cephalium is 1–1½in wide, about ½in high, and bears white flowers, 3–3¼in long. These are nocturnal, appearing in summer. Requires sun; normal cactus compost; minimum temperature 61°F. *Brazil (Minas Gerais).*



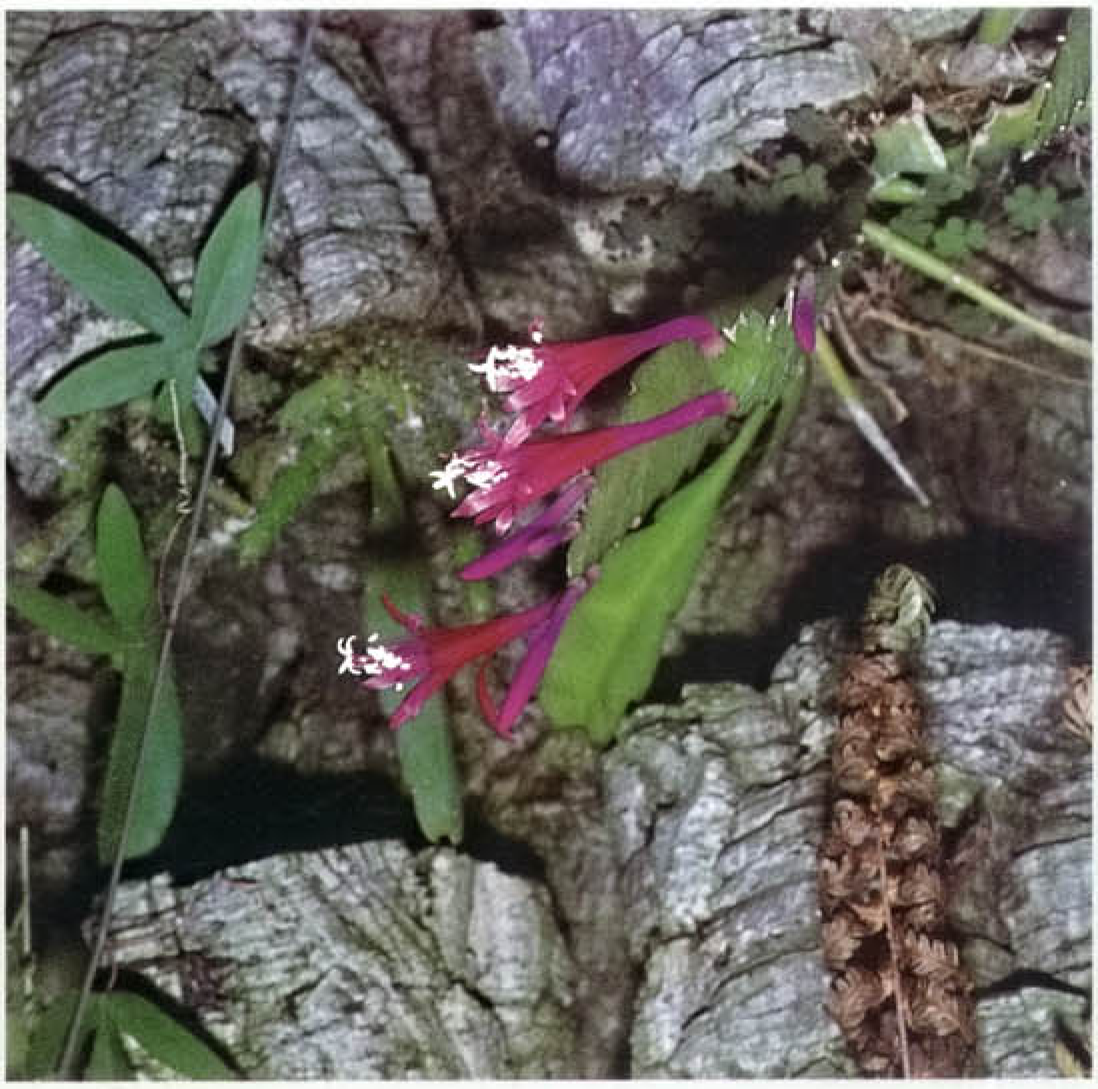
DISCOCACTUS **ZEHNTNERI var. BOOMIANUS** (Buin. & Bred.) Braun Syn: *Discocactus boomianus* Buin. & Bred.

A dull green, more or less globular plant to 2½in high, 4in in diameter. The 16-20 ribs are densely covered with yellow to pale-brownish spines, 10 radial spines 1in in length, arranged like a comb, and usually no centrals, only rarely one about 1⅓in long. Flowers are nocturnal, arising from a terminal cephalium in summer. They are white, trumpet-shaped, and up to 3½in across when fully open. Requires very bright light; an enriched mineral compost; minimum temperature 61°F. *Brazil (Bahia).*



DISOCACTUS **ALATUS** (K. Sch.) Kimnach
Syn: *Pseudorhipsalis alata* (K. Sch.) Br. & R.
Rhipsalis coriacea Polak

A branching epiphytic shrub with cylindrical stems and flat, lanceolate branches 6–10in long and about ¾in wide. The marginal, gray woolly areoles are without spines or bristles. Flowering diurnally in late spring, the flowers are greenish white to yellowish white, and about ⅔in long. Requires slight shade; normal cactus compost; minimum temperature 59°F. *Jamaica*.



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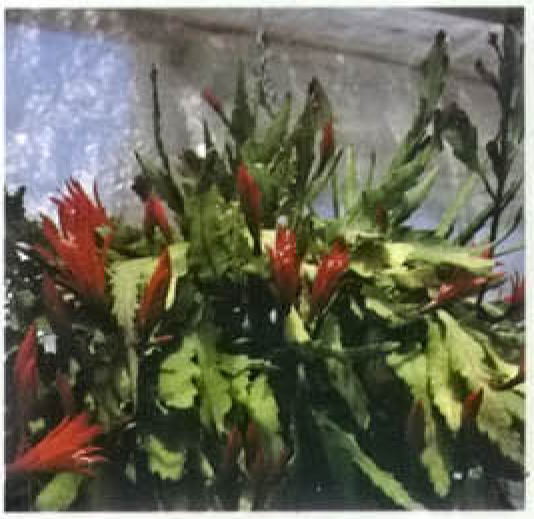
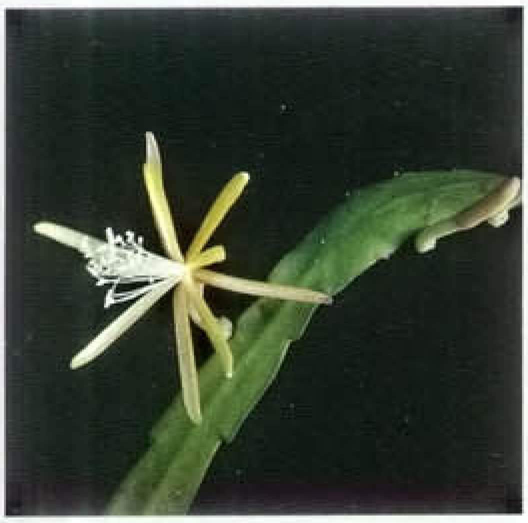
DISOCACTUS **BIFORMIS** Lindley
Syn: *Phyllocactus biformis* Lab.

An epiphytic species with long, flat, leaf-like branches to 8in long issuing from a fairly long cylindrical stem. The branches have regular, serrate margins where very small areoles are situated; these are spineless. Daytime flowers which are pale red and 2–2½in long appear in early spring from the side areoles. Requires a position in filtered light; an acid, free-draining compost; minimum temperature 59°F. *Honduras, Guatemala*.



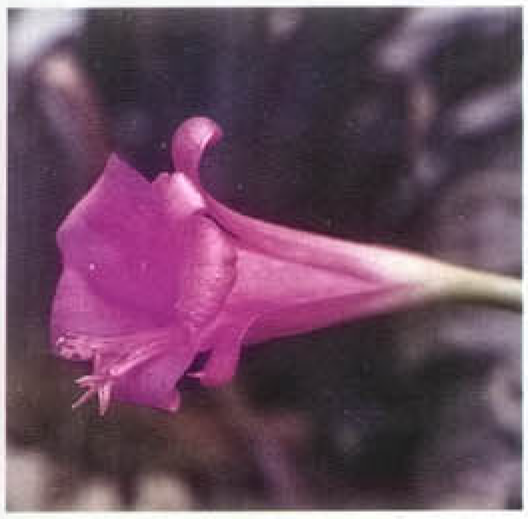
DISOCACTUS **EICHLAMII** (Weingt.)
Br. & R.
Syn: *Phyllocactus eichlamii* Weingt.

Plants with a cylindrical, slender stem with many flattened branches about 1ft long, 2in wide. They are slightly fleshy, with crenate margins, along which small areoles occur which are spineless. This is an epiphyte with carmine-red flowers opening in succession in late winter and early spring in daytime, each about 2½in long with a slender, trumpet-like tube. Needs partial shade; porous acid compost; minimum temperature 59°F. *Guatemala*.



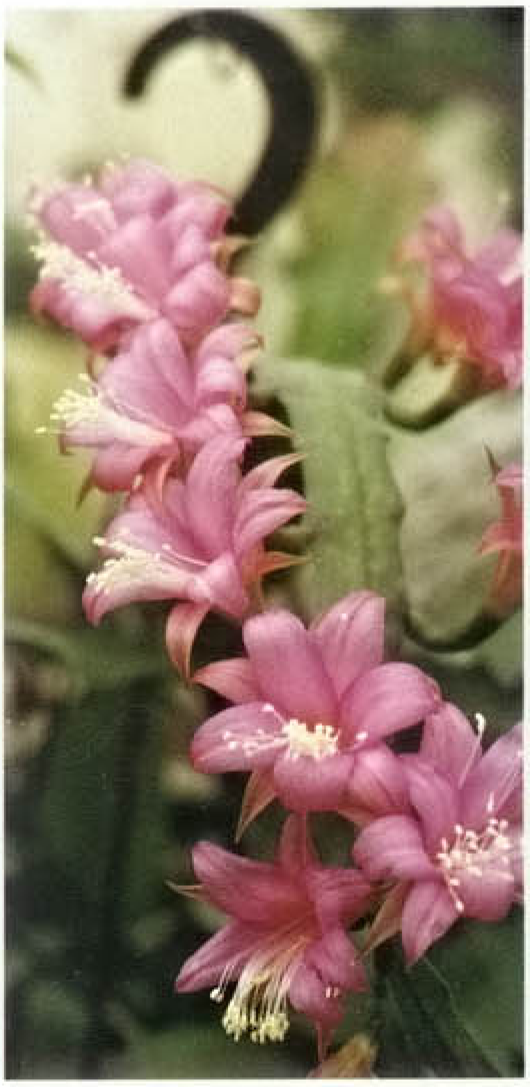
DISOCACTUS **MACRANTHA** (Alex.) Kimnach & P. C. Hutch.
Syn: *Pseudorhipsalis macrantha* Alex.

An epiphyte with pendant, flat, leaf-like stems to about 3ft long, 1¾in wide with notched margins which carry minute, spineless areoles. Flowers appear in early summer from the side areoles. They are diurnal, and pale lemon yellow, about 2in long, 1in across when expanded. Requires partial shade; a porous acid compost; minimum temperature 59°F. *Mexico (Oaxaca).*



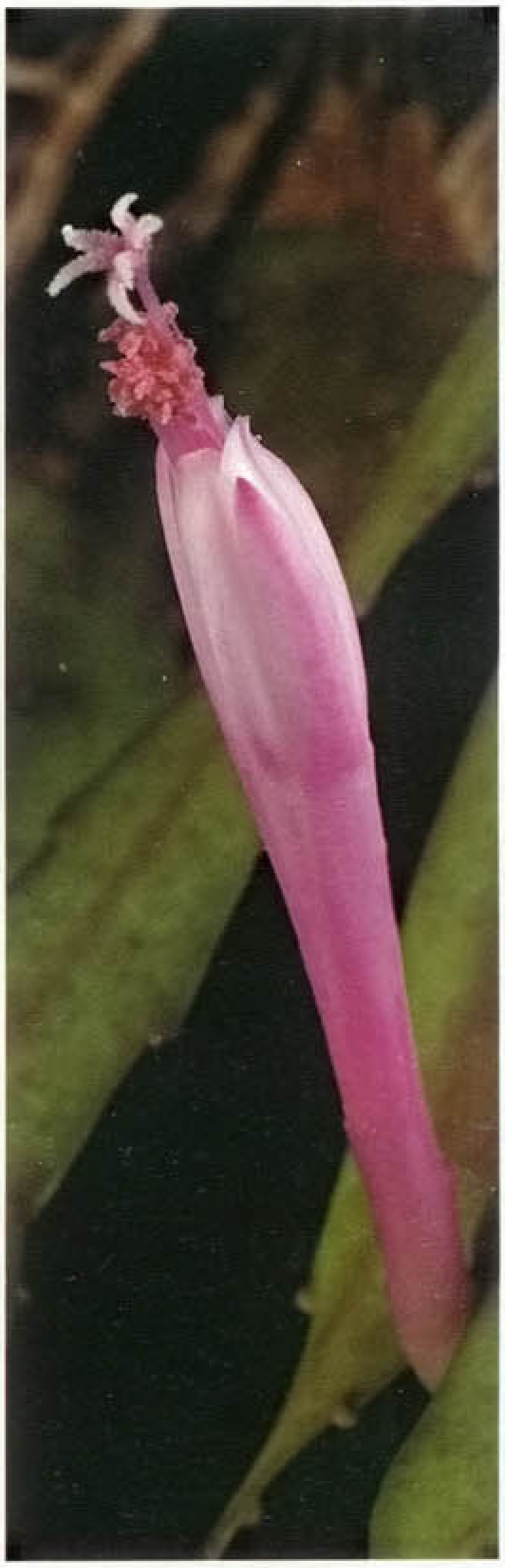
DISOCACTUS **NELSONII** (Br. & R.) Lindinger
Syn: *Chiapasia nelsonii* Br. & R.

A high-altitude epiphytic species with many dark-green flattened branches 2ft or more long. These are somewhat terete at the base, but becoming 1–1½in wide above; the margins are obtusely crenate. Flowers are diurnal, occurring in early summer and borne on a long tube ¾–1in long; they are trumpet-shaped with purplish-pink petals about 2½in long. Requires semi-shade; a porous acid compost; minimum temperature 59°F. *Mexico (Chiapas), Guatemala.*



DISOCACTUS **NELSONII var. HONDURENSIS** (Kimnach) Kimnach
Syn: *Chiapasia nelsonii* var. *hondurensis* (Kimnach) Backeb.

An epiphyte with elongated, flat, leaf-like stems to 1½ft long, 2–2½in broad. Flowers are similarly colored to those of the species, but with wider petals which tend to recurve. Requirements are as for the species. *Honduras.*



DISOCACTUS **QUEZALTECUS** (Standley & Steyermark) Kimnach
Syn: *Bonifazia quezalteca* Standley & Steyermark

An epiphytic with stems up to 1ft 2in long, terete, with three rows of areoles bearing up to 15 white bristles to ⅔in long, then becoming flat and leaf-like for 4in–1½ft. Lance-shaped stems initially reddish, becoming green, with serrate margins and areoles bearing one to three bristles. Flowers are tubular, to 3½in long, pale purplish, and day flowering in early summer. Requires normal cactus compost; partial shade; minimum temperature 61°F. *Guatemala.*

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ECHINOCACTUS **GRUSONII** Hildm.

The "Golden Barrel" or "Mother-in-law's Cushion." A large globose plant to over 3ft high, 1ft 3in–2ft 7in thick, and pale green in color. It has 20–35 or more sharply defined ribs with comparatively small, felted areoles carrying golden-yellow spines consisting of eight to ten radials and three to five centrals 1–2in long. Flowers occur by day in summer only on mature plants from the crown of the plant; these are bright yellow, 1½–2½in long. Requires bright sun; normal cactus compost; minimum temperature 50°F. *Mexico (San Luis Potosi to Hidalgo).*

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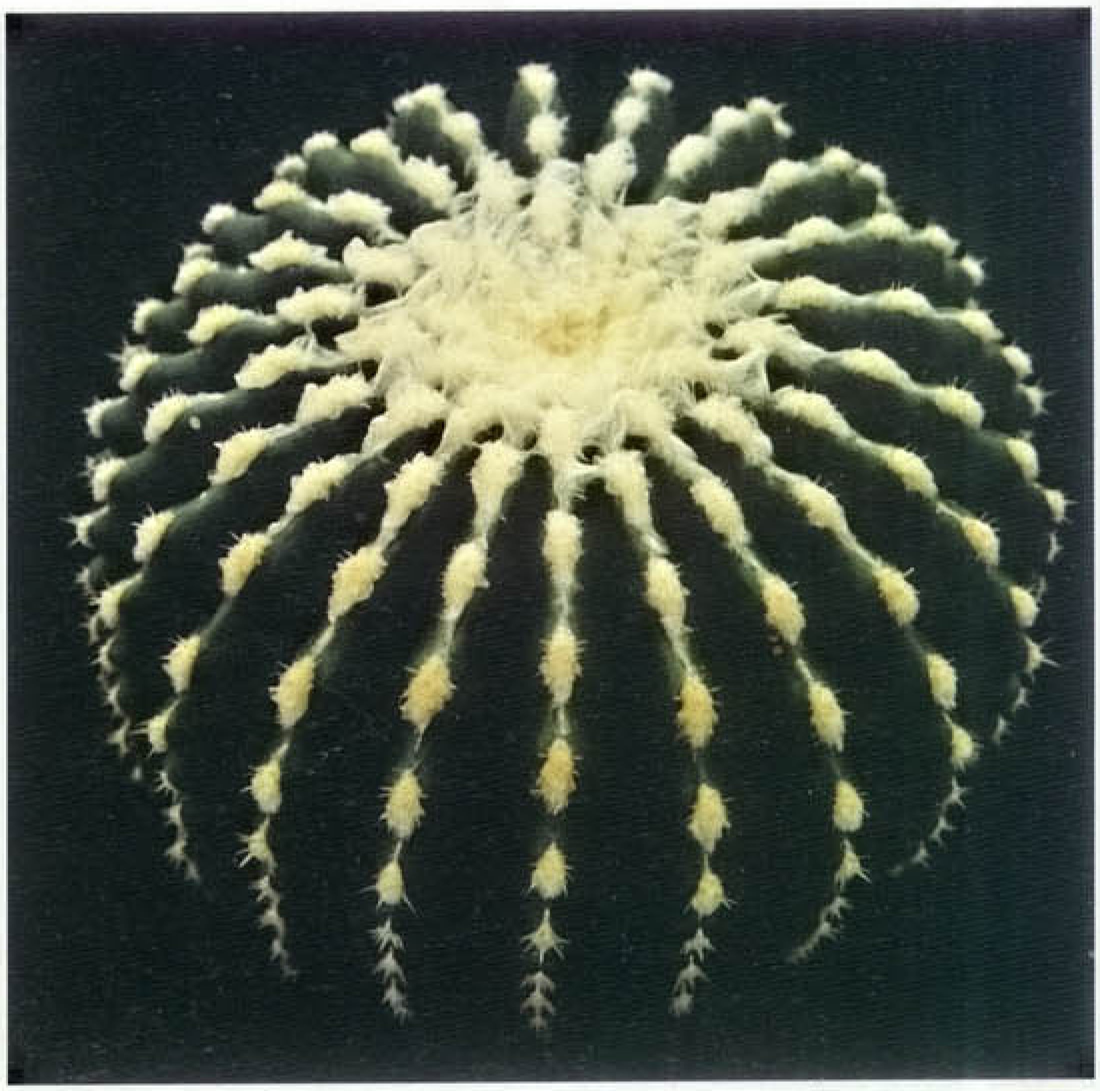

ECHINOCACTUS **GRUSONII var. INERMIS** hort.

Syn: *Echinocactus grusonii subinermis* hort.; *Echinocactus grusonii* × *'L. J. van Veen'* Janse

A curiosity plant more or less identical to the species but totally without the golden-yellow spines.

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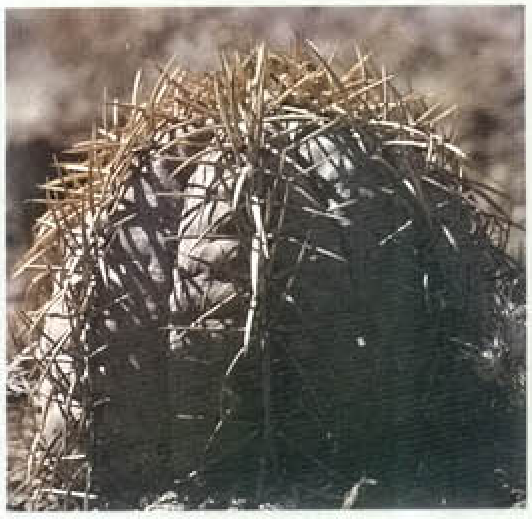

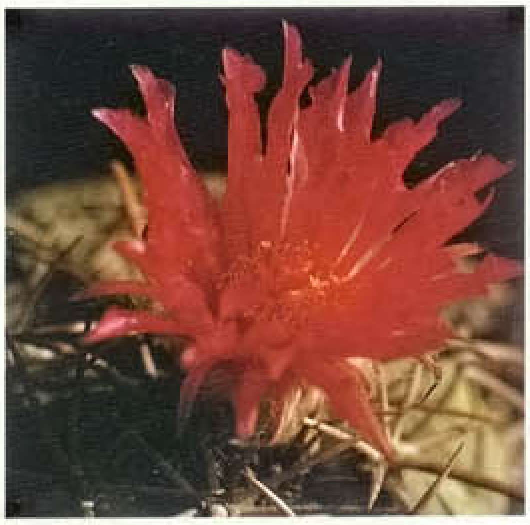

ECHINOCACTUS **HORIZONTHALONIUS** Lem.

A glaucous-green globular plant to 10in high, 1ft 3in in diameter, with seven to thirteen ribs often spirally arranged. Areoles bear six to nine brownish radial spines and one central, ¾–1½in long; the radials are sometimes curved. Summer flowering, the rose or pink flowers are 2–3in long, and diurnal. Requires full sun; slightly calcareous cactus compost; minimum temperature 59°F. *USA (Texas, New Mexico), Northern Mexico.*

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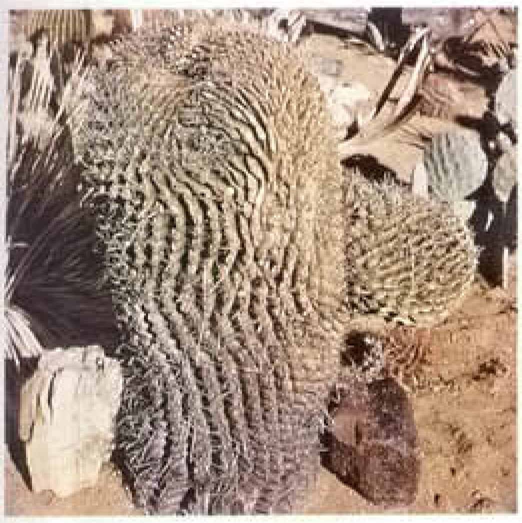

ECHINOCACTUS **INGENS** Zucc.
Syn: *Echinocactus platyacanthus* Link & Otto

A thick, semi-globular plant to 4ft 9in tall, 4ft in diameter, purplish gray in color, with gray wool on top. About 50 ribs have yellowish-woolly areoles bearing eight straight brown radial spines about ¾in long, and one central slightly longer. Flowers are yellow, diurnal in summer, about ¾in long, 1in across when expanded. Full sun is essential; needs slightly calcareous porous, enriched soil; minimum temperature 59°F. *Mexico (Hidalgo).*

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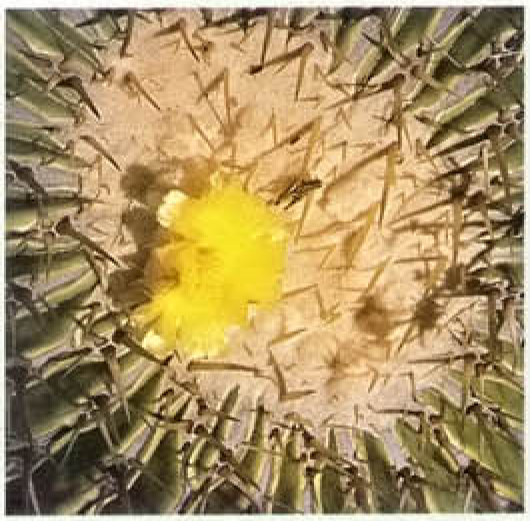

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ECHINOCACTUS **PLATYACANTHUS** Link & Otto

A large, fresh green, broadly globular plant to about 1½ft in diameter with 21–24 very pronounced ribs. The grayish areoles bear grayish-brown spines, about four radials, and three to four longer centrals. Flowers are diurnal in summer. Golden yellow and about 1½in long, they are centered in the woolly crown. Needs a bright position; normal cactus compost with lime added; minimum temperature 59°F. *Mexico (Central areas).*

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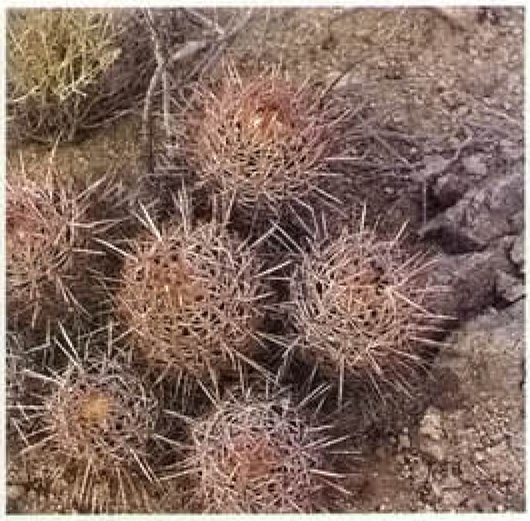

ECHINOCACTUS **POLYCEPHALUS** Engelm. & Bigelow

Globular, sometimes elongating plants 1ft 3in–2ft 4in high, 7–10in thick, starting solitary but later forming large clumps. There are 13–21 ribs with whitish-gray areoles set at intervals of about 1in. Spines are reddish brown consisting of four to eight somewhat flat, spreading radials to 2in long, and four centrals 1½–3½in in length. Day flowering in summer, flowers are yellow, 2–2½in long. Needs full sun, which is essential; normal cactus compost; minimum temperature 50°F. *USA (California, Nevada), Mexico (Sonora).*

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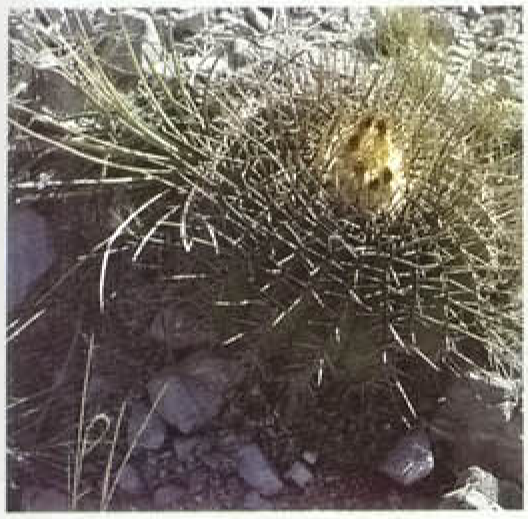

ECHINOCACTUS **PALMERI** Rose
Syn: *Echinocactus platyacanthus* Link & Otto

The plants are globular and elongated to 6½ft high, 1½ft in diameter with 12–26 or more slightly notched, broad ribs. The areoles are brownish, bearing yellowish-brown spines; four to six radials ¾–1in long, and four centrals 2½–3¼in long. Flowers are diurnal in summer; they are yellow, 1–1½in long, and the petals have "laced" edges. Requires full sun; normal cactus compost; minimum temperature 55°F. *Mexico (Zacatecas).*

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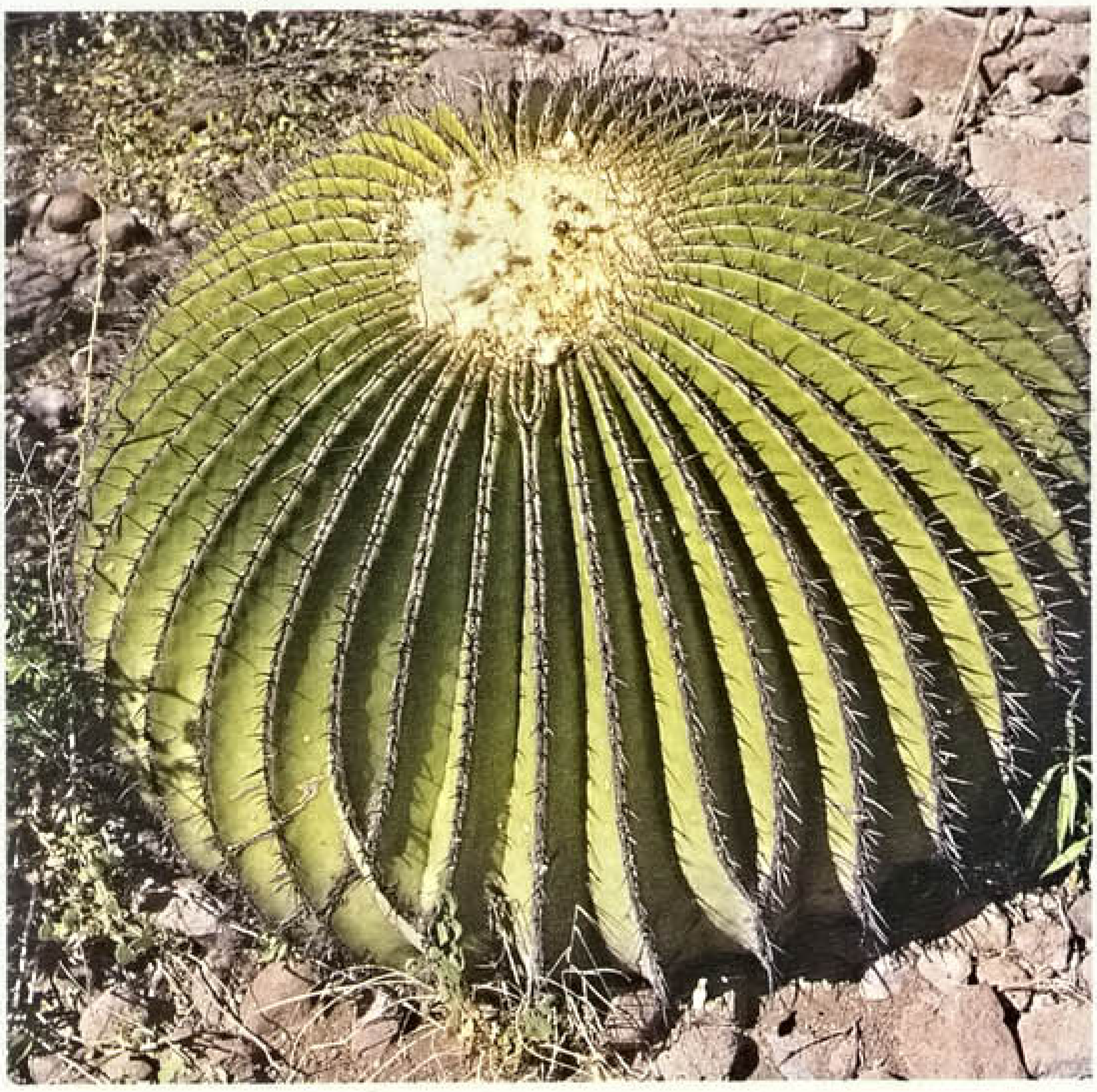

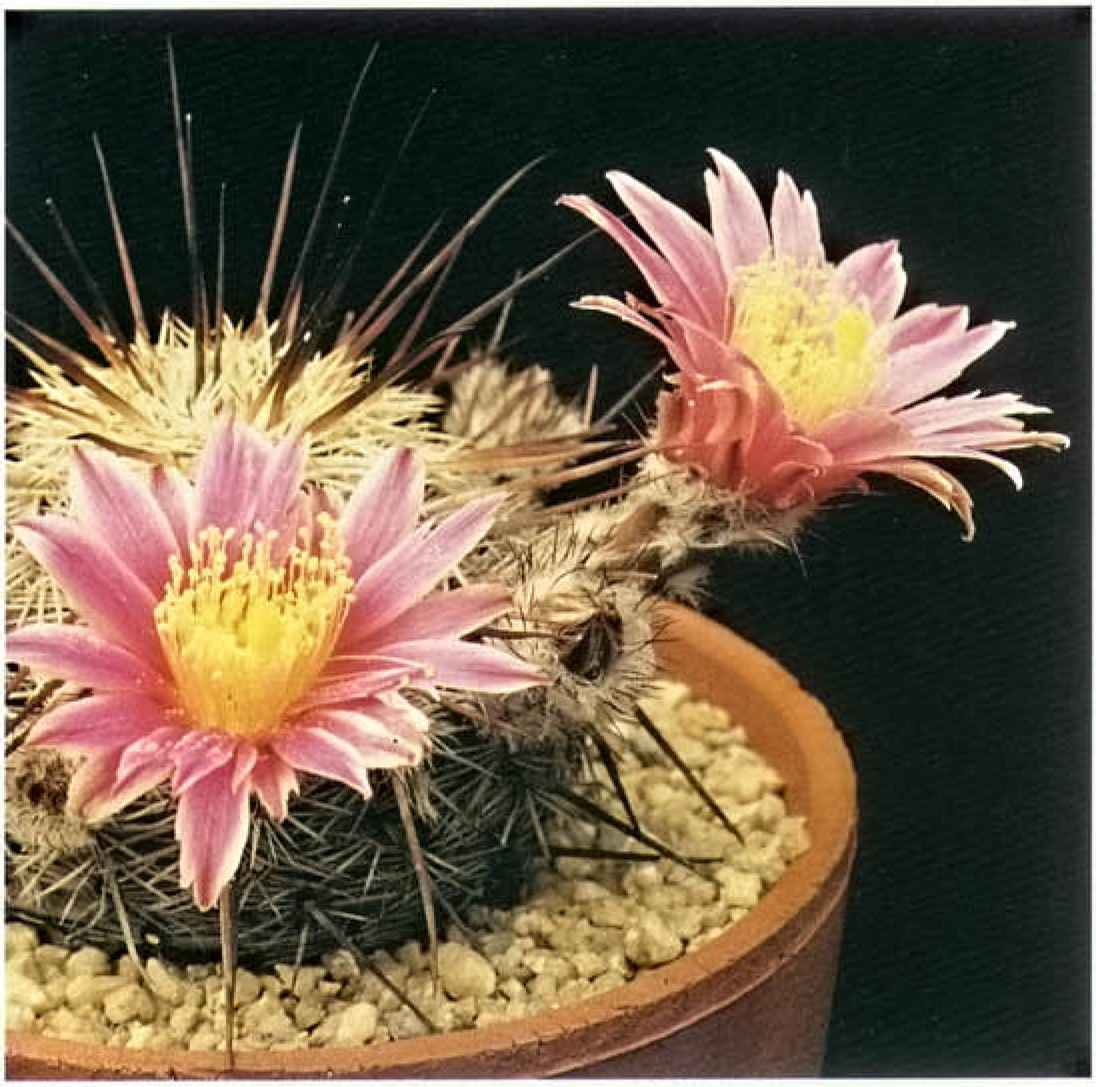

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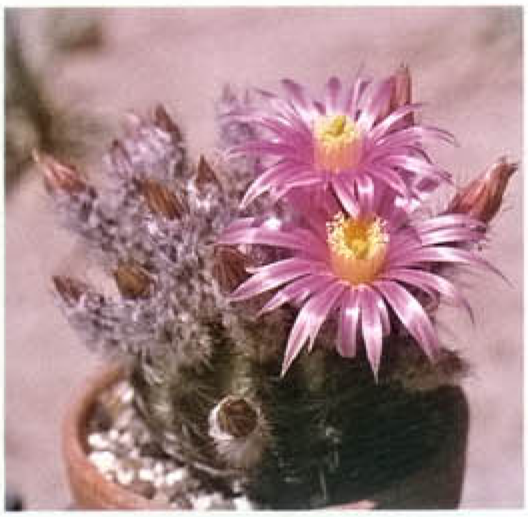
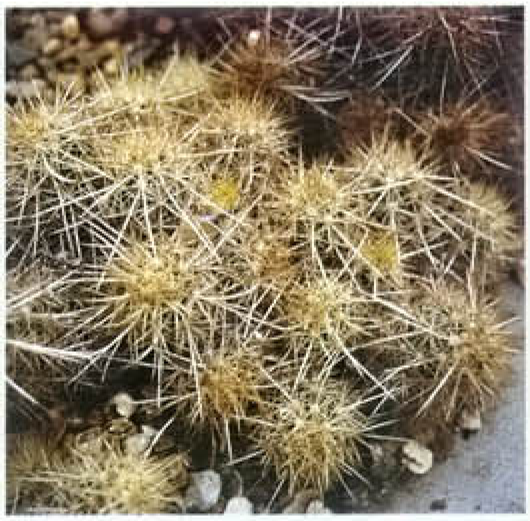
ECHINOCEREUS **ADUSTUS** Engelm.
Syn: *Echinocereus caespitosus* var. *adustus* Engelm.

A short cylindrical, rarely caespitose species, 1½–2½in high, and dark green. It has 13–15 ribs, and closely set areoles with dark brownish-red spines which are yellowish near the base, consisting of 16–20 widely spreading radials and one central about ⅔in long. Flowers are diurnal appearing in early summer; they are 1–1½in long, and are pinkish purple often with a slightly paler edge to the inner petals. Requires bright light; normal cactus compost; minimum temperature 45°F. *Northern Mexico.*



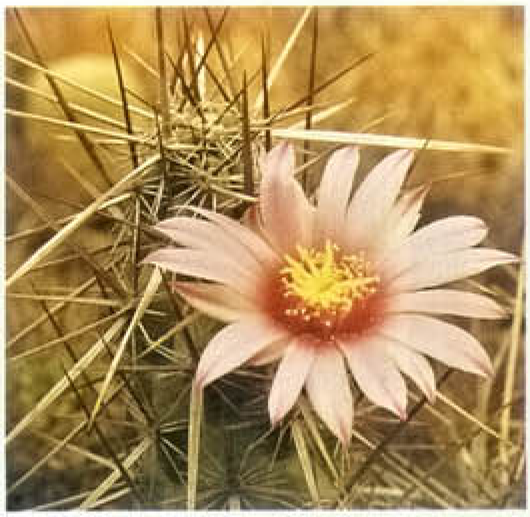
ECHINOCEREUS **ADUSTUS var. SCHWARZII** (Lau) N. P. Taylor
Syn: *Echinocereus schwarzii* Lau

Similar in most respects to the species, the dark-green stems are up to 3¼in high, and 4¾in in diameter, with 11–14 ribs. The spines are yellowish with reddish tips; there are 26–31 radials to ⅔in long and one to two centrals, the upper one ⅕in, the lower ½in in length. A summer, day-flowering plant, the flowers are 2–2½in long, 2in across, pale purple sometimes with a darker center area. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Durango).*



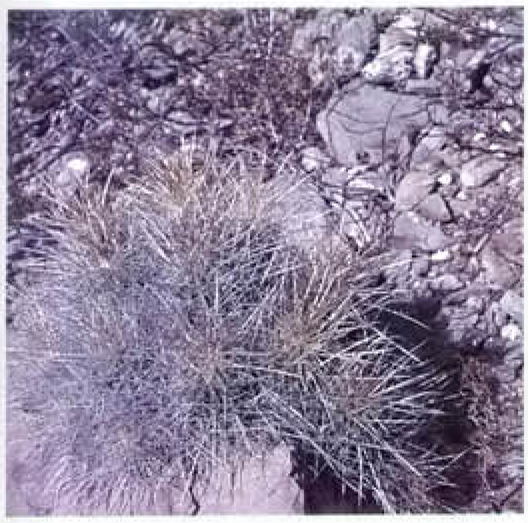
ECHINOCEREUS **BARTHELOWIANUS** Br. & R.

A clustering species, the cylindrical stems are up to 8in long, 1½–2in wide with about 10 ribs, slightly tuberculate toward the base. Areoles are fairly close-set and bear numerous white or pinkish-white spines, later turning gray, with brownish-black tips, consisting of both radials and centrals, often to 3in long. Summer flowering, and diurnal, the flowers are purple, up to ½in long, the petals only 1/10–⅕in long. Needs full sun; normal cactus compost; minimum temperature 55°F. *Mexico (Baja).*



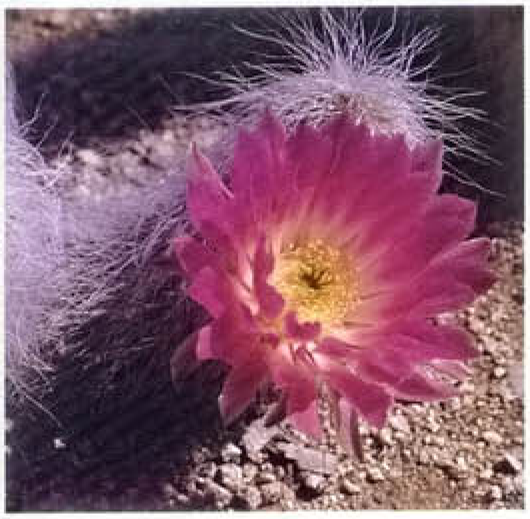
ECHINOCEREUS **BRANDEGEEI** (Coult.) K. Sch.
Syn: *Cereus brandegeei* Coult.

A dull-green, more or less erect, stiff plant to 1ft 2in tall, 1½–2in thick, becoming cylindrical in shape and forming clumps. There are about six ribs with prominent tubercles bearing circular areoles with about 12 radial spines and four thicker centrals which are yellowish red and are frequently 3¼in in length. The flowers are purplish pink with a reddish throat, and about 2in long; they appear by day in summer. Needs bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Baja).*



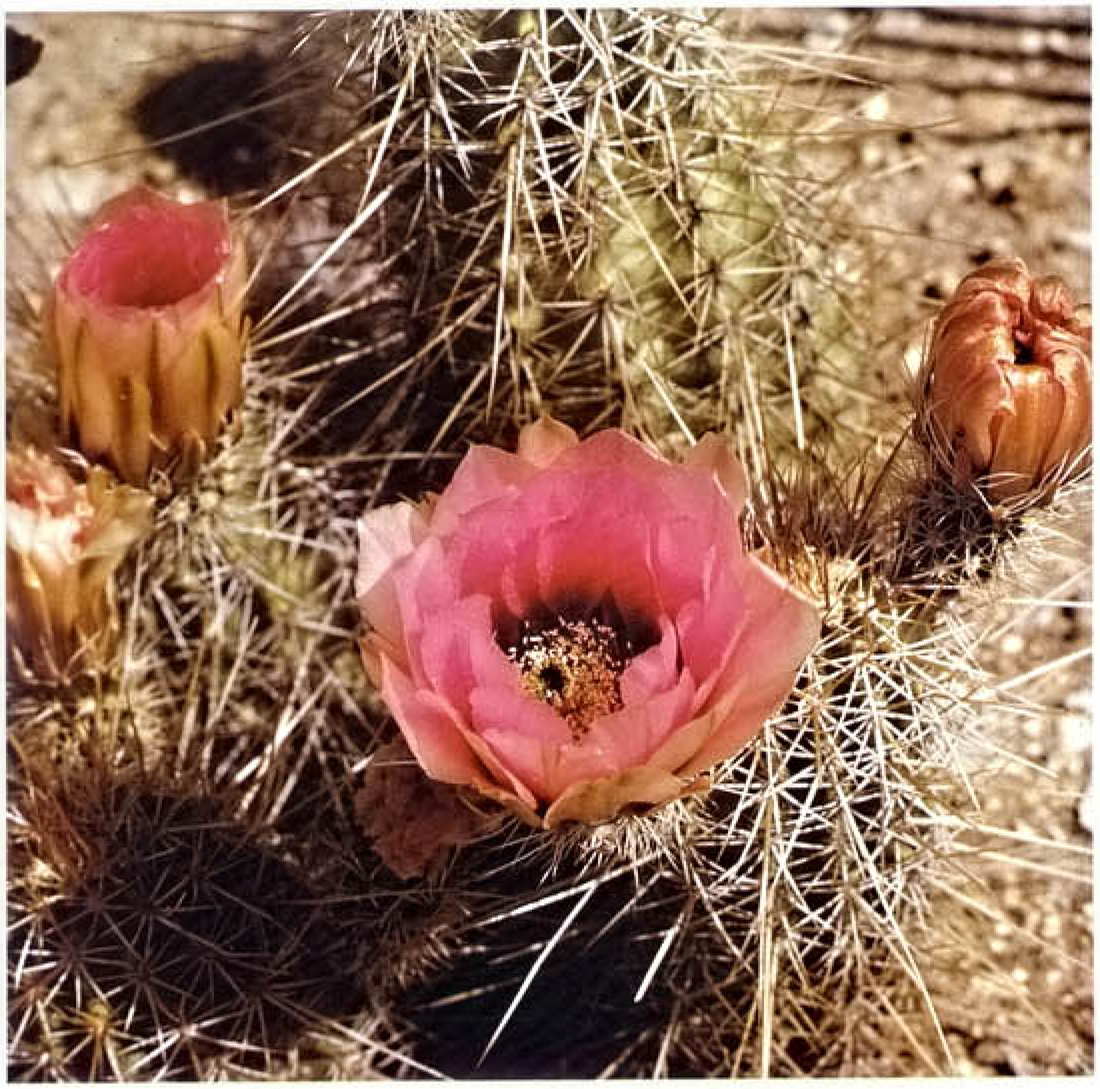
ECHINOCEREUS **CONGLOMERATUS** Först.

A group-forming species: the dark green individual stems are 4–8in long each with 11–13 ribs. The areoles are about ½in apart, bearing pale brownish-white spines which almost cover the plant. These consist of nine to ten radials ⅔–1in long and several flexible centrals, to 3in in length. Flowering by day in mid-summer, the flowers are purple, 2½–3in long and wide, the tube and ovary with dense long spines. Needs full sun; slightly calcareous compost; minimum temperature 50°F. *Mexico (Coahuila).*



ECHINOCEREUS **DELAETII** Gürke

A clustering species with stems 4–10in high, 2–3in thick, pale green and entirely covered with long white hairs. There are 18–24 ribs with areoles bearing 18–36 pale yellowish radial spines to ½in long, and four to five red-tipped centrals to 1in in length, plus numerous hairs which almost obscure the stems. Flowers are diurnal in early summer; they are pale purplish pink, 3in long, 2½in or more across, with the green stigma very much in evidence. Requires a sunny position; normal cactus compost with a little lime added; minimum temperature 50°F. *Mexico (Coahuila).*



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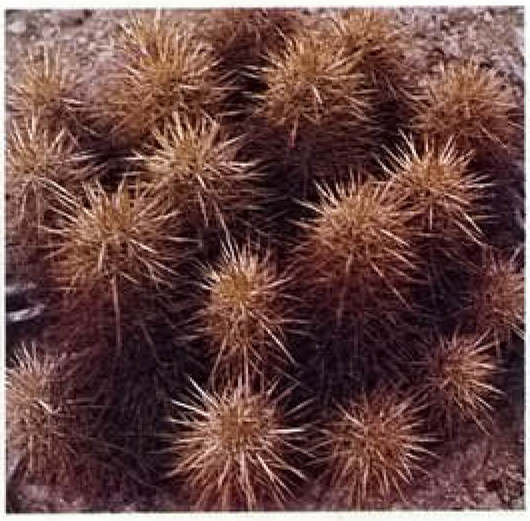
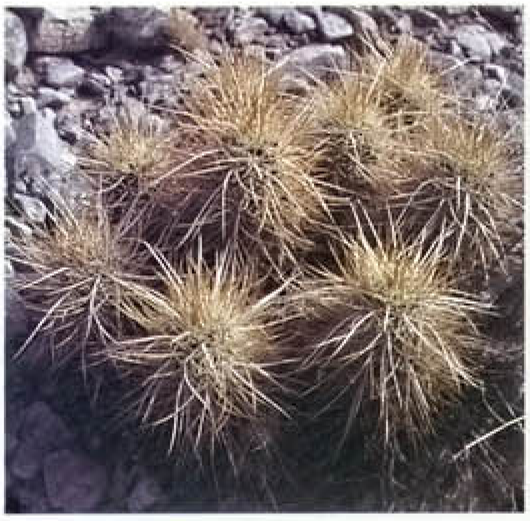
ECHINOCEREUS **ENGELMANNII** (Parry) Rümpl.
Syn: *Cereus engelmannii* Parry

A clump-forming plant to about 10in high; individual stems are 2–3in thick with 10–14 ribs. Large round areoles are set about ½in apart with variously colored spines: 10–12 radial spines about ½in in length, and two to six centrals to 3in long. The typical coloring is white. Flowers are 2–3¼in long and over 3in across, and are pinkish red, occurring by day in summer. Requires a sunny position; normal cactus compost; minimum temperature 50°F. *USA (South-western States), Mexico (Northern).*



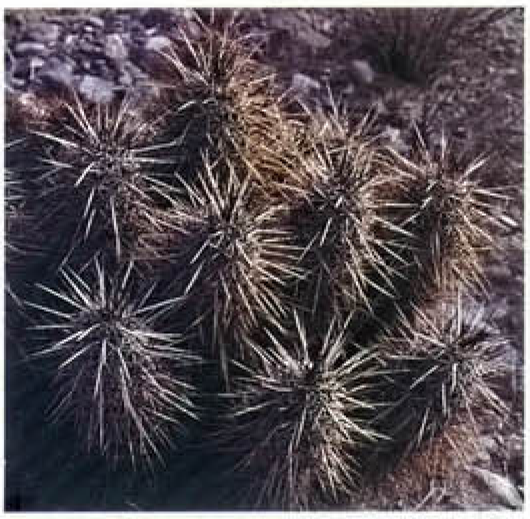
ECHINOCEREUS **ENGELMANNII var. ACICULARIS** L. Benson

A spine-color variety found on rocky hillsides at up to 3,300ft elevation. Stems can reach up to 2ft long, 2in in diameter, forming clusters. The pinkish or yellowish spines vary in length up to 1½in. Day flowering in summer, the flowers are purple or magenta, and are about 2½in across. Requirements are the same as for the type species. *USA (Arizona).*



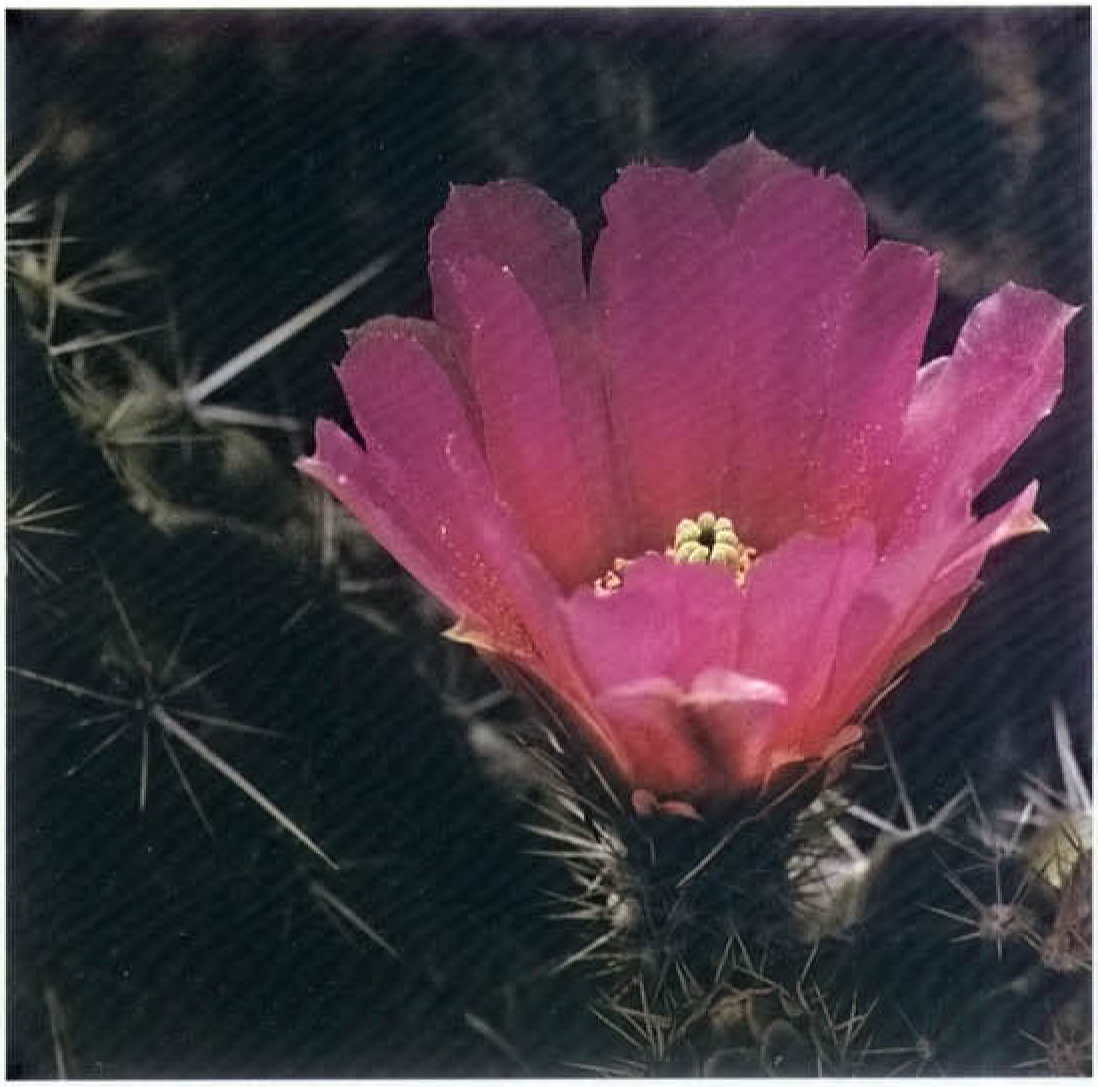
ECHINOCEREUS **ENGELMANNII var. CHRYSOCENTRUS** (Engelm.) Engelm. ex Rümpl.

A long-spined variety from low to high elevations in desert regions. Stems are usually up to 8in high, about 2½in thick, and forming groups of three to ten. The spines are various shades of reddish or yellowish coloring, the lower central being white, all straight or twisted, to about 2in long. Flowers are purplish to magenta, to 3¼in in diameter, and occur by day in summer. Requirements as for the species. *USA (Arizona, California).*



ECHINOCEREUS **ENGELMANNII var. VARIEGATUS** (Engelm.) Engelm. ex Rümpl.

Habitats vary from grassy, gravelly hillsides to high-altitude deserts. These are clustering plants with stems 3¼–6in long, to 2in thick. Spines are reddish black, the radials sometimes almost white, as is the lower central; all are about 1½in in length. Diurnal, in summer, flowers are purplish to magenta, about 2in diameter. Requirements as for the species. *USA (Arizona).*



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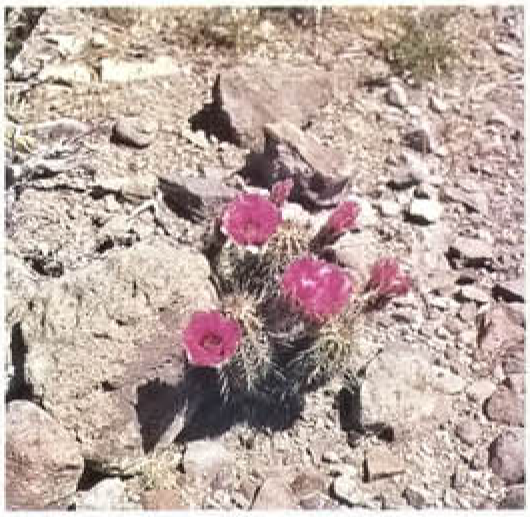
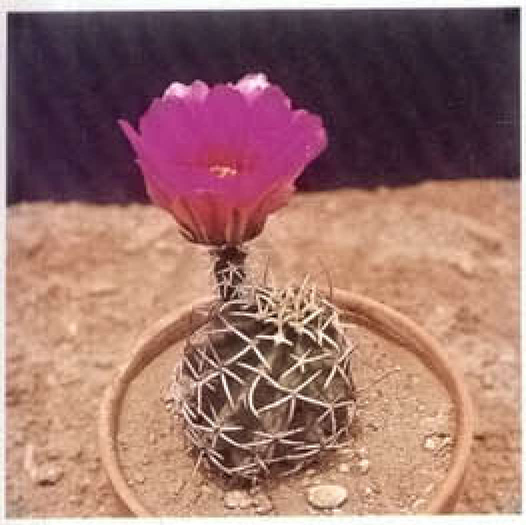
ECHINOCEREUS **ENNEACANTHUS** Engelm.

A clustering, somewhat prostrate species with stems to 8in long, 1–3in thick with eight to ten prominent blunt ribs. The whitish round areoles are set about ½in apart. Radial spines are white, numbering seven to ten or more, up to ⅔in long, and spreading; there are one to three yellowish-brown centrals 1½–2¾in in length. The pale purplish-red flowers, 2–2½in long, about 3in across, appear by day in mid-summer. Requires a bright sunny position; normal cactus compost; minimum temperature 50°F. *Mexico (Chihuahua, Coahuila).*



ECHINOCEREUS **FENDLERI** (Engelm.) Rümpl.
Syn: *Cereus fendleri* Engelm.

Stems are 4–6in long, 2–2½in thick, dull or brownish green with nine to twelve ribs. Areoles are about ½–⅔in apart bearing about eight brownish radial spines ½–¾in long and a single, much longer central. The purplish-violet flowers are about 3¼in long, with petals "toothed" at the edges. They are diurnal, appearing in summer. Requires full sun; normal cactus compost with a little lime added; minimum temperature 50°F. *USA (Arizona, New Mexico), Mexico (Sonora and Chihuahua).*



ECHINOCEREUS **FENDLERI var. KUENZLERI** (Castetter *et al*) L. Benson

Syn: *Echinocereus kuenzleri*, Castetter, Pierce & Schwerin

Solitary or branching, dark green to reddish brown, conical, to 6in long and up to 4in in diameter. They have about 10 prominent ribs and conspicuous tubercles. Areoles bear four to six whitish radial spines about ¼–⅓in long, and occasionally one longer blackish central. Flowers are diurnal, in summer; purplish pink to violet, 2–4in long and across. Requires good light; normal cactus compost; minimum temperature 50°F. *USA (New Mexico).*

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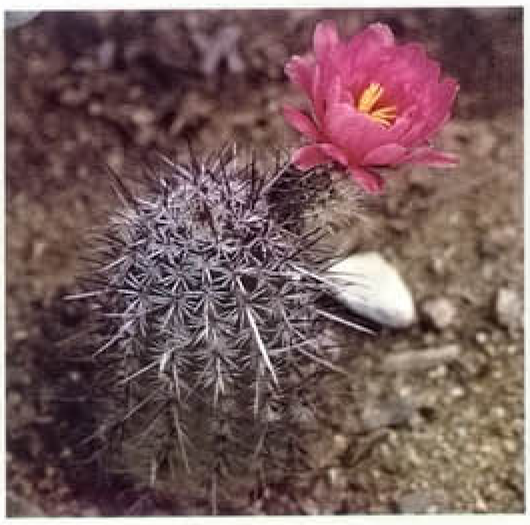

ECHINOCEREUS **FERREIRIANUS** Gat.

An erect, somewhat globular plant often up to 1ft high in its habitat and 3¼in thick. Dull gray-green in color it has nine to thirteen ribs. The areoles bear nine to thirteen grayish-brown radial spines up to ½in long, and the long centrals, first brown but becoming gray, are very prominent, about 2in long. Flowering in summer by day, the blooms are a deep rose pink about 1½in across, 2½in long. Requires a bright sunny position; normal cactus compost; minimum temperature 50°F. *Mexico (Baja).*

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ECHINOCEREUS **FLORESII** Backeb.

A cylindrical-stemmed species to about 4in high, 1in in diameter, deep green in color with about 14 ribs. The areoles bear many whitish or brownish radial spines about ⅔in long, and more rarely one to two longer centrals. Flowers are bright red, 1¾in long, 3in across, appearing by day in mid-summer. Requires careful watering at all times; a fairly sunny position; an enriched mineral compost; minimum temperature 50°F. *Mexico (Sinaloa).*

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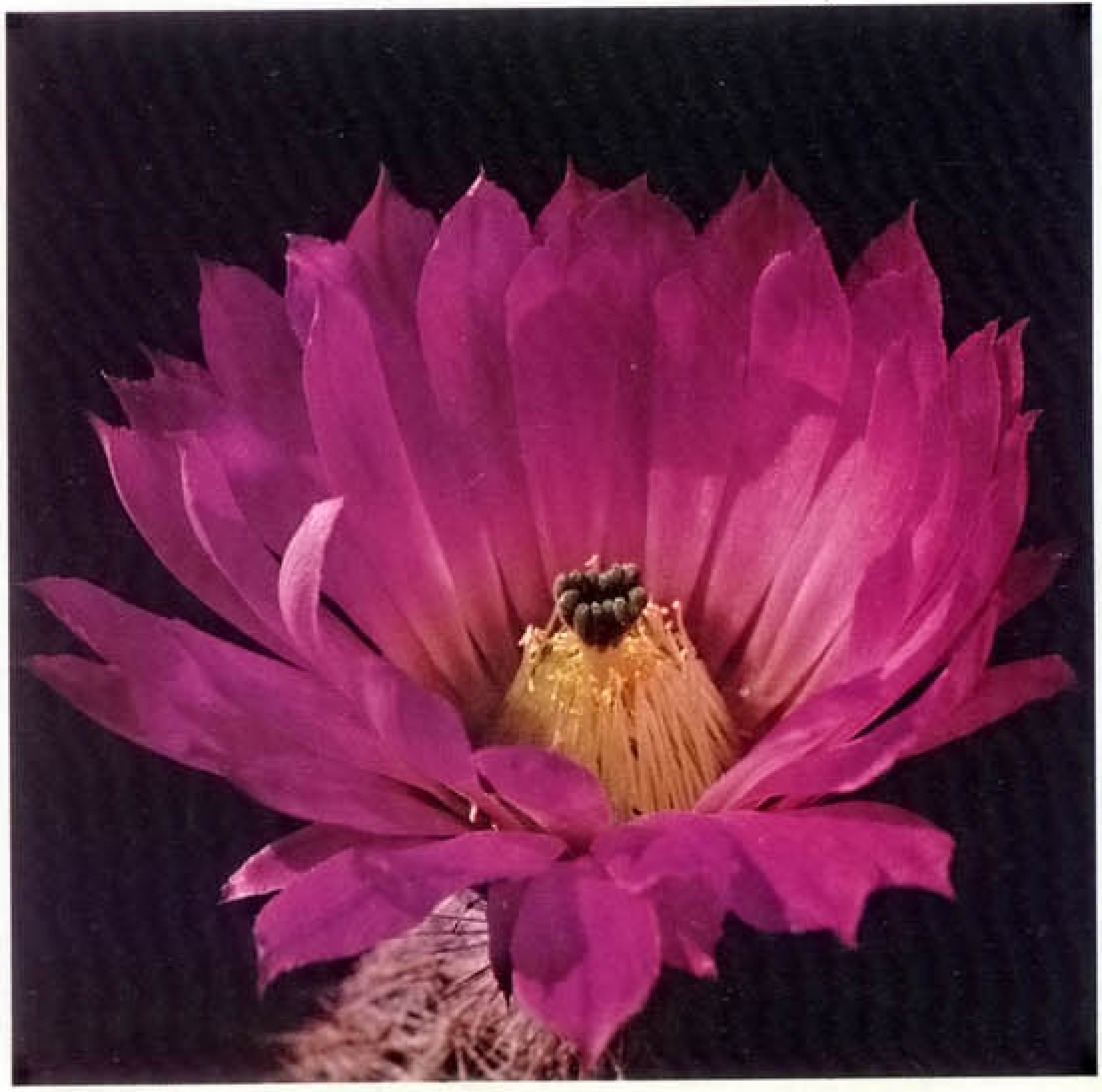

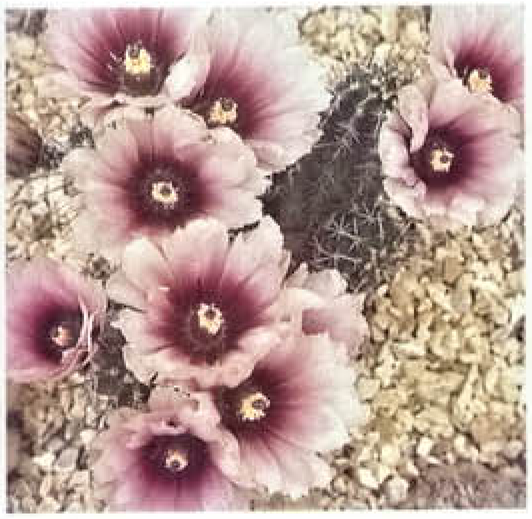

ECHINOCEREUS **FENDLERI var. NOVA**

A most colorful variant discovered in the Clark Mountains. It has been recently considered a form of var. *rectispinus*, but the flower coloring fails to meet the necessary description. The flowers, 2in long, are funnel-shaped with pale pink petals shading down to a rich deep reddish-purple throat, and appear by day in summer. Requires full sun; normal cactus compost; minimum temperature 50°F. *USA (California, Nevada).*

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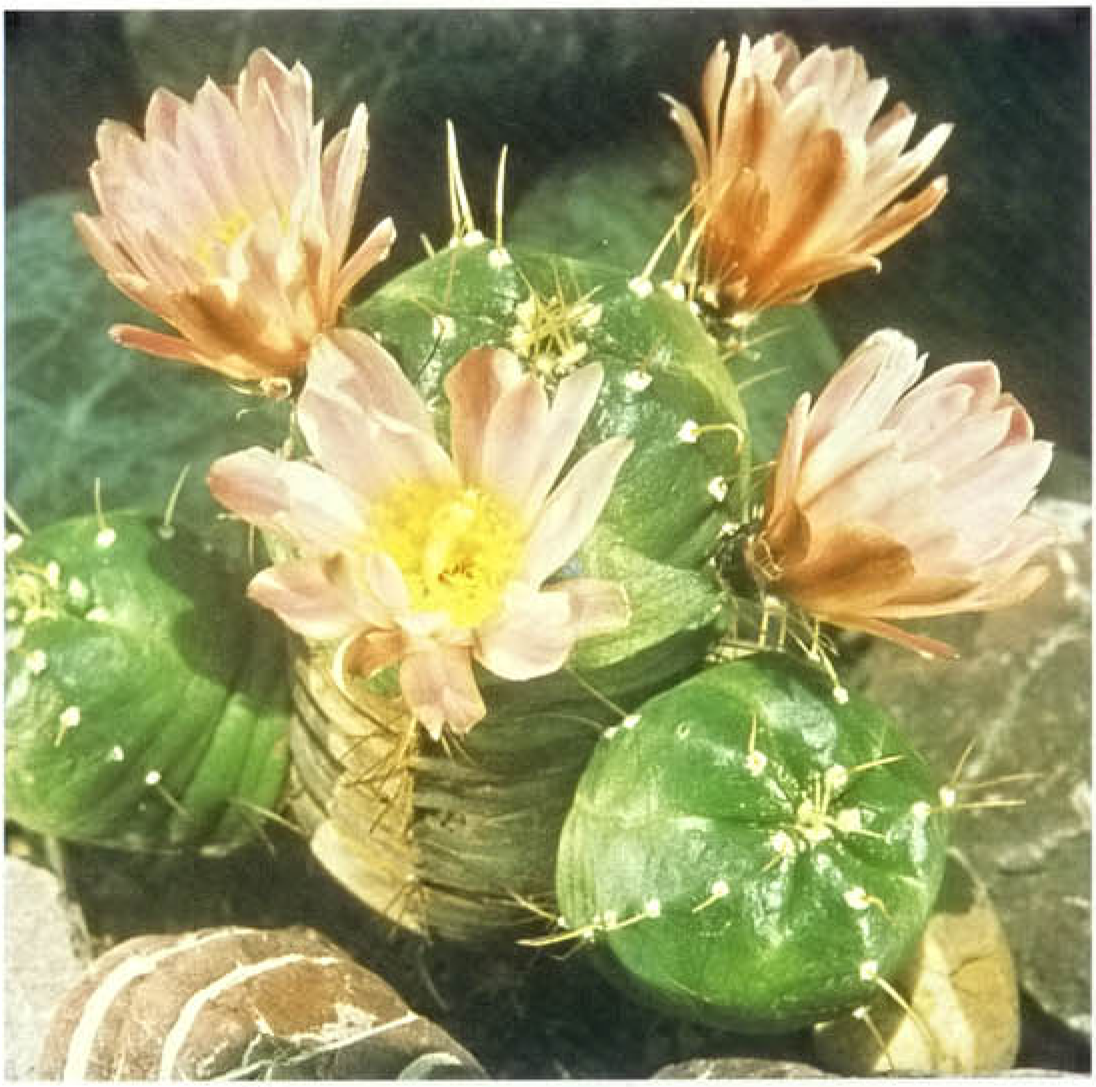
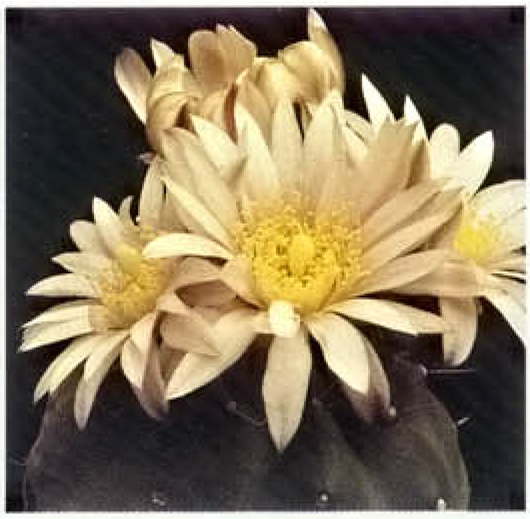


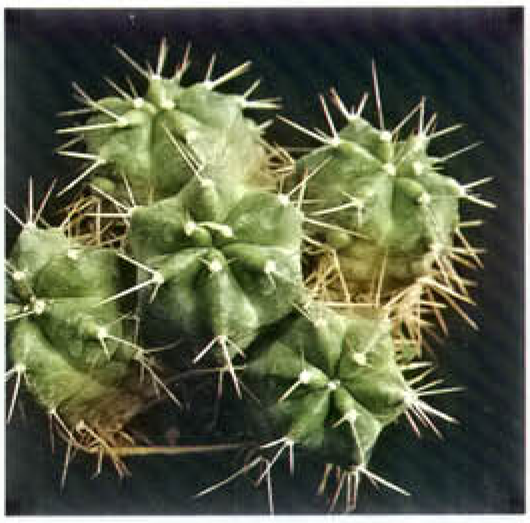
ECHINOCEREUS **KNIPPELIANUS** Liebn.

A very dark green globular, almost oval plant about 2in in diameter, with five to six rounded ribs divided by broad furrows. The areoles are very small with one to three yellowish, bristly spines to ⅔in long, these quickly falling. Flowering diurnally in spring and early summer, the flowers are pink, about 1½in long. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Coahuila).*



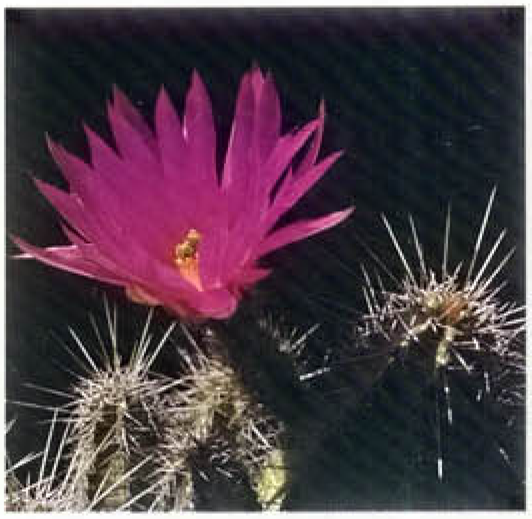
ECHINOCEREUS **KNIPPELIANUS var. KRUEGERI** Glass & Foster

Similar in most respects to the species, but more readily forming clusters. The stems, 2in or more thick, have more ribs, and the areoles bear three to four spines to ½in long. Flowers are whitish, the outer segments tinged tan to pale purple. Requires bright light; normal cactus compost; minimum temperature 55°F. *Mexico (Nuevo Leon).*



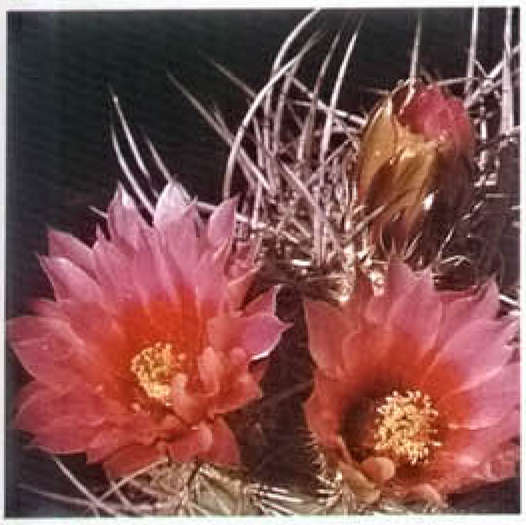
ECHINOCEREUS **KNIPPELIANUS var. REYESII** Lau

Very similar in most respects to var. *kruegeri* the four spines are whitish to pale yellow, the upper three tipped brown, to ¼in long, the lowest spines to 1in. Flowers are purple, 2–2½in wide when fully open. Day flowering in the summer. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Nuevo Leon).*



ECHINOCEREUS **LEONENSIS** Mathsson
Syn: *Echinocereus pentalophus* var. *leonensis* (Mathsson) N. P. Taylor

A stiff, erect gray-green species with stems to 10in long, 1½–2in thick. There are six to seven ribs with whitish areoles set with white spines, eight radials to ⅔in long, and one central 1in in length. Day flowering in summer, the flowers are 3¼in long, purplish red with a center line a deeper shade. Requires bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Nuevo Leon).*



ECHINOCEREUS **LINDSAYI** Meyran
Syn: *Echinocereus ferreirianus* var. *lindsayi* (Meyran) N. P. Taylor

A dull-green almost globose plant, 8in or more tall and about 3¼in thick. It has eight to thirteen ribs and areoles bearing long, white tortuous spines tipped black; the radials are about ¾in long, the centrals 1½–2in. Flowering in summer, the plant is diurnal and the flowers are about 2in long, rose pink with an orange-red throat. Requires full sun; normal cactus compost; minimum temperature 55°F. *Mexico (Baja).*

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ECHINOCEREUS **MERKERI** Hildm.

An erect or semi-prostrate species with stems of grayish green 4¾–6in thick, up to 1ft or more high, and with eight to nine rounded ribs with prominent tubercles. The areoles are grayish white set about ¾in apart with six to nine white radial spines and one to two centrals up to 2in long. Flowers are purplish red, about 2½in long, and are diurnal, in summer. Needs good light; normal cactus compost; minimum temperature 50°F. *Northern Mexico.*

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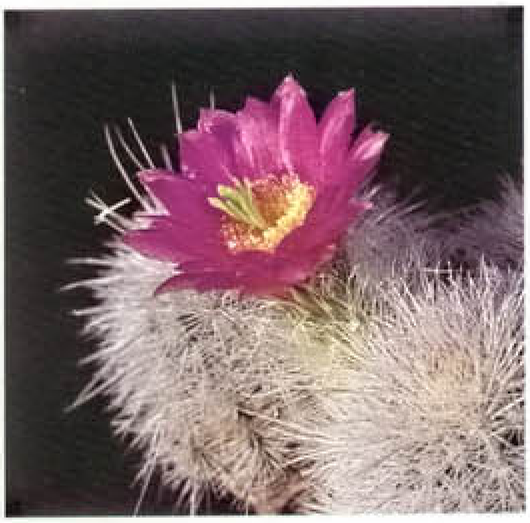

ECHINOCEREUS **NIVOSUS** Glass & Foster
Syn: *Echinocereus albatus* Backeb. (?)

A clump-forming species, the individual stems are pale green and up to 1½in in diameter, with about 12 low ribs. Areoles are on slight prominences set ⅓in apart. The spines are white or grayish, tipped black, of which there are about 30 radials, ⅕–⅖in long and 11–12 centrals, ⅖–½in, rarely one longer to ¾in. Flowers are diurnal, in summer, magenta in color and 1–1⅓in across. Requires full sun; slightly calcareous cactus compost; minimum temperature 50°F. *Mexico (Coahuila).*

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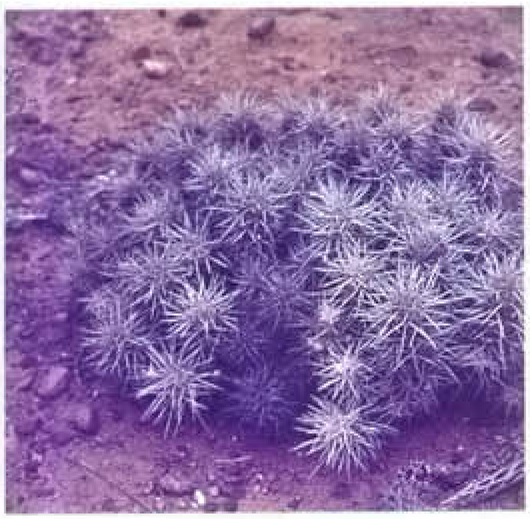

ECHINOCEREUS **MARITIMUS** (Jones) K. Sch.

A rather variable species with roundish or somewhat cylindrical stems 2–6in long, ¾–1in thick, and clustering freely. Colored bright green passing to gray, there are eight to ten ribs with areoles set about ¾in apart bearing grayish-white spines, nine to ten radials to 1in long, and one to four centrals to 1⅓in . The flowers are yellow, about 1½in long, and bloom by day, in summer. Requires full sun; normal cactus compost with lime added; minimum temperature 55°F. *Mexico (Baja).*

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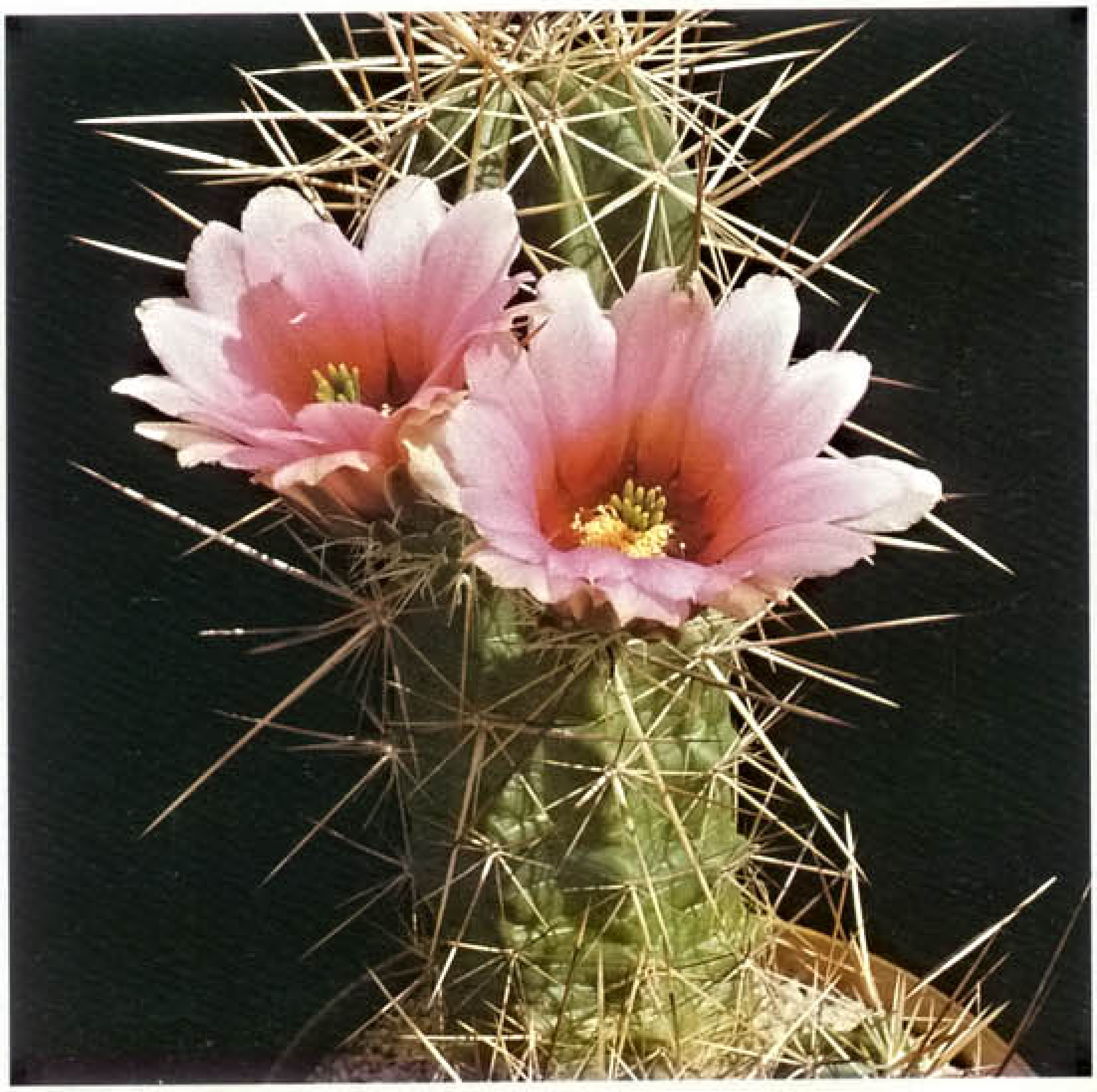
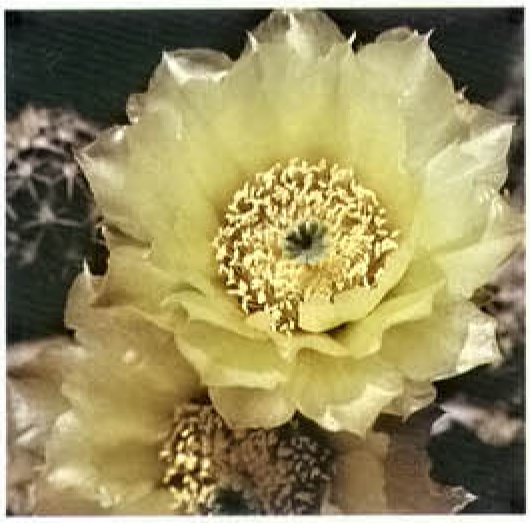




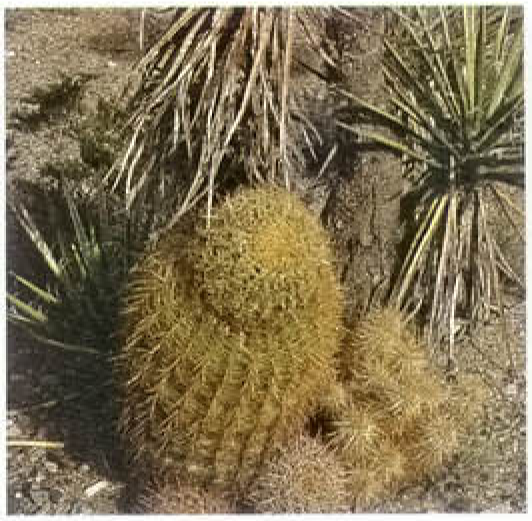
ECHINOCEREUS PAPILLOSUS A. Linke

Syn: *Echinocereus blanckii* var. *angusticeps* (Clov.) L. Benson

The earlier title still persists regardless of the reclassification. A sprawling, branching, pale green plant with stems up to 10in long, 1in thick, and seven to nine ribs. Areoles are yellowish with about seven brownish-white radial spines to ½in long and one yellow central to ¾in. Flowering diurnally in summer, the blooms are yellow, to 4in in diameter. Requires a sunny position; normal cactus compost; minimum temperature 50°F. *USA (Texas).*

ECHINOCEREUS PECTINATUS (Scheidw.) Engelm

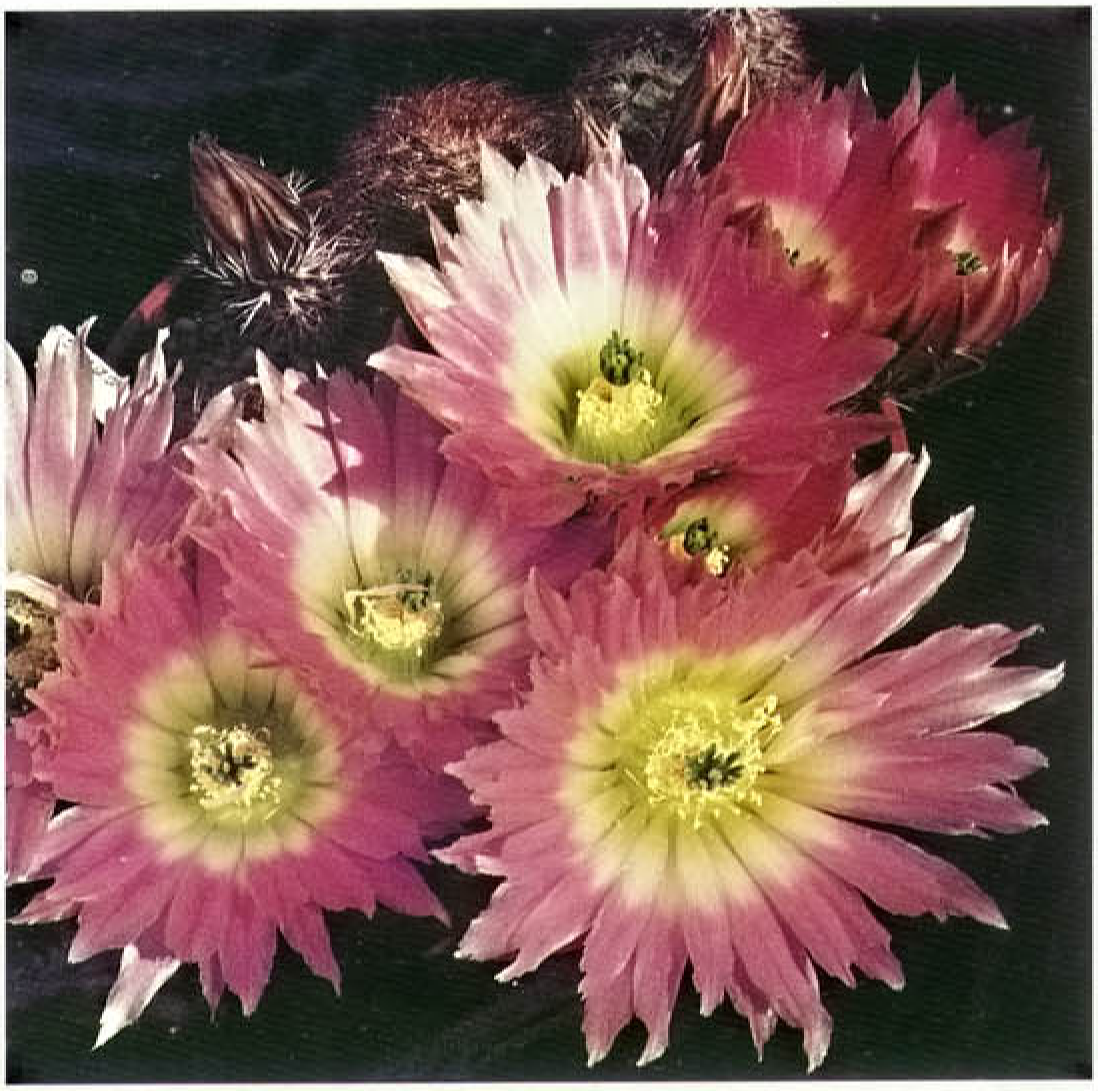
The "type" of a most variable species. Globose or short cylindrical plants to 6in high, 2½–3¼in thick with about 20 ribs. The 22–30 radial spines are whitish or pinkish, to ⅖in long, arranged like a comb, and there are about three very short centrals to ⅒in long. Flowers are diurnal, appearing in summer; 2½–3¼in across, they are pale pinkish lavender with a white throat. Requires sun; normal cactus compost; minimum temperature 50°F. *USA (Texas), Mexico (Northern States).*

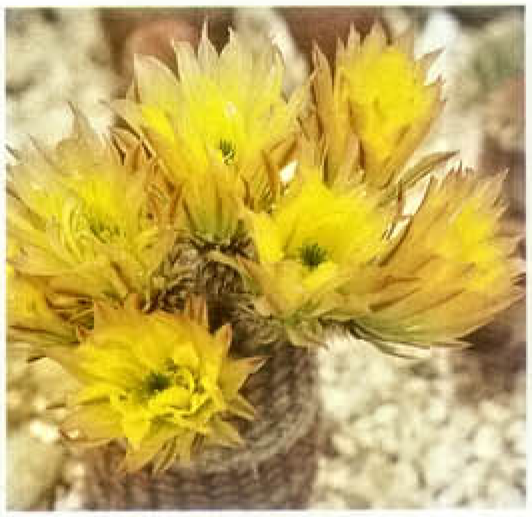


ECHINOCEREUS PECTINATUS var. CTENOIDES (Engelm.) Weniger

Syn: *Echinocereus ctenoides* Engelm.

A dark green, cylindrical-shaped plant to 1ft–1ft 2in high, with 20 or more ribs. The areoles are close-set bearing 12–25 grayish or brownish radial spines more or less adpressed, with two to five or more brownish centrals about ¾in long. Flowers appear in summer, and are diurnal. Up to 4in diameter, they are generally yellow, rarely pink or purplish. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Sonora), USA (Texas).*

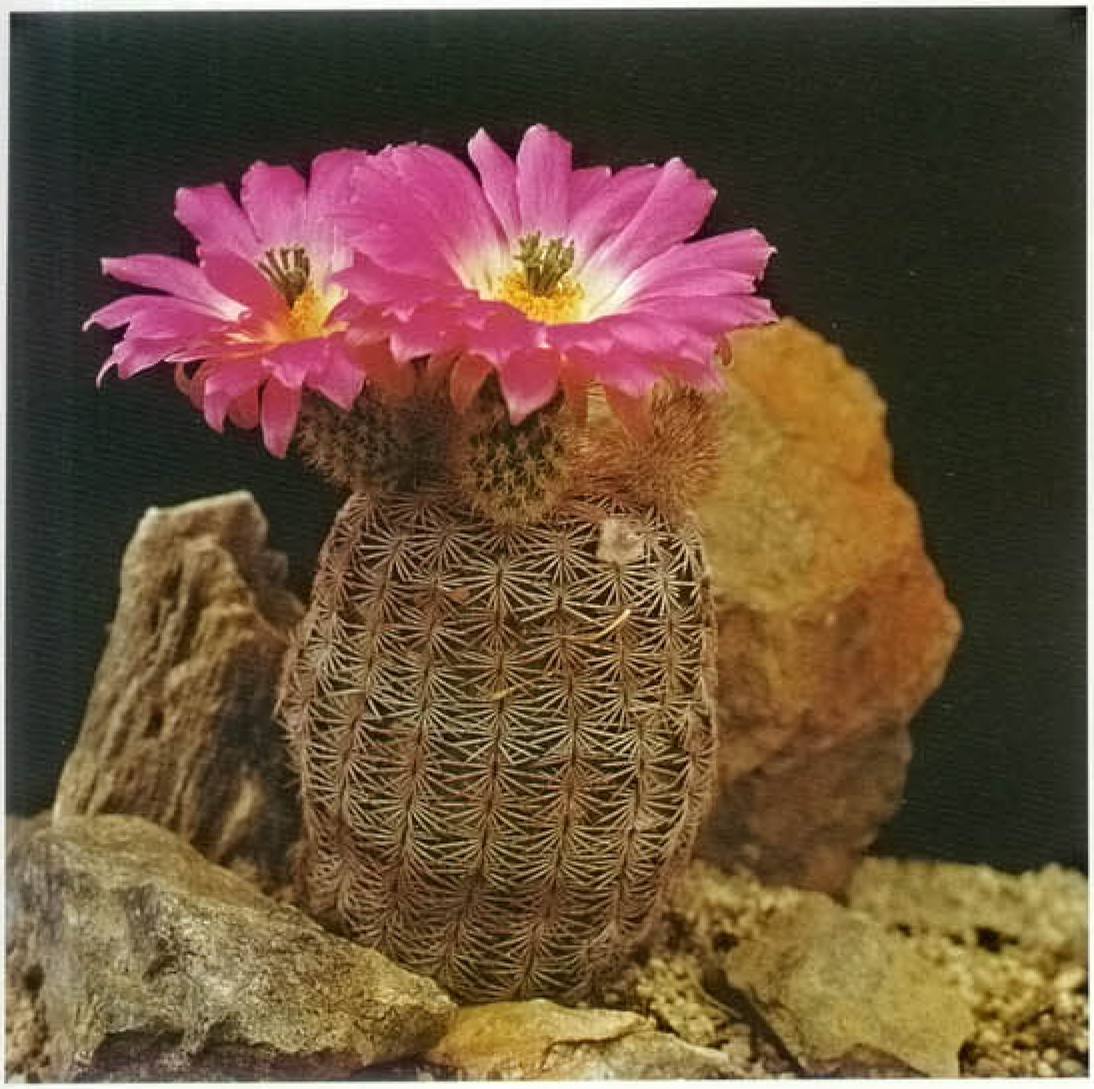




ECHINOCEREUS PECTINATUS var. DASYACANTHUS (Engelm.) N. P. Taylor

Syn: *Echinocereus dasyacanthus* Engelm. *Echinocereus pectinatus* var. *neomexicanus* L. Benson

Cylindrical, to 8in high and 3–3¼in thick, with 18–20 ribs. Brownish areoles bear 18–22 brown or pink radial spines to ½in long and three to eight centrals to ⅓in. Flowers are yellow, to 4in long, 4¾in in diameter, diurnal, in summer. Needs sun; normal cactus compost with a little lime; minimum temperature 50°F. *USA (Arizona, New Mexico), Mexico.*



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ECHINOCEREUS **PECTINATUS var. MINOR** (Engelm.) L. Benson
Syn: *Echinocereus dasyacanthus* var. *minor* Engelm.; *Echinocereus scopulorum* Br. & R.

Stems are usually solitary, 4in–1ft or more tall and about 3in thick with 14–16 straight ribs. The closely set areoles carry up to 15 pink or grayish radial spines ⅕–½in long and two or more centrals ⅕in or a little more in length. Flowering in early summer, the plant is diurnal, with magenta flowers 2–3¼in in diameter. Requires bright sun; normal cactus compost with a little lime added; minimum temperature 50°F. *USA (Southern States), Mexico (Northern States).*

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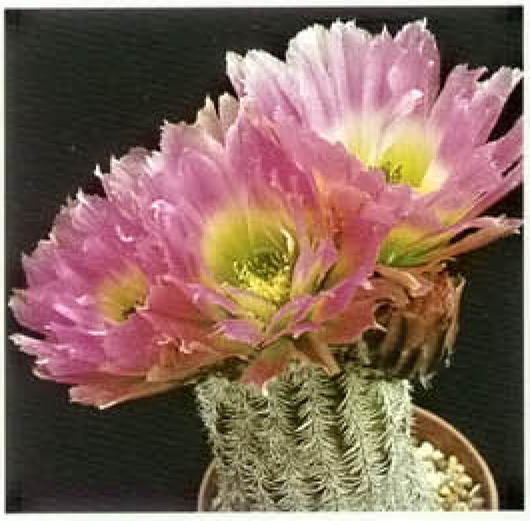

ECHINOCEREUS **PECTINATUS var. WENIGERI** L. Benson

More or less cylindrical plants, 3–4in long, 2in thick, with up to 14 straight ribs. The areoles bear 14–16 ashy-white radial spines ¼in long and one to three similarly colored centrals in a vertical series, ⅒in in length. Day flowering in mid-summer, the flowers are magenta with a yellowish throat, 2–3¼in in diameter. Needs a bright sunny position; normal cactus compost with a little lime added; minimum temperature 50°F. *USA (Texas), Mexico (Coahuila).*

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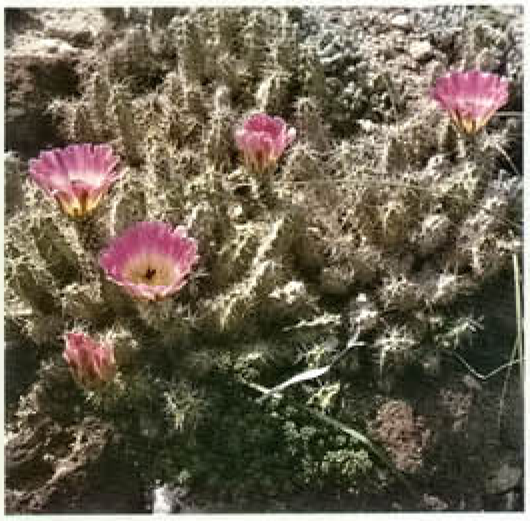

ECHINOCEREUS **PENTALOPHUS** (DC.) Rümpl.

A somewhat sprawling, pale to dark green plant with stems 4¾–5½in long, about ¾in thick, and four to five ribs set with whitish areoles. The yellowish or whitish spines are all radials, to ¾in in length. Flowering early to mid-summer, the flowers are diurnal, lilac to carmine, and up to 4in long and across. Requires bright light; normal cactus compost; minimum temperature 50°F. *USA (Texas), Mexico (Northern States).*

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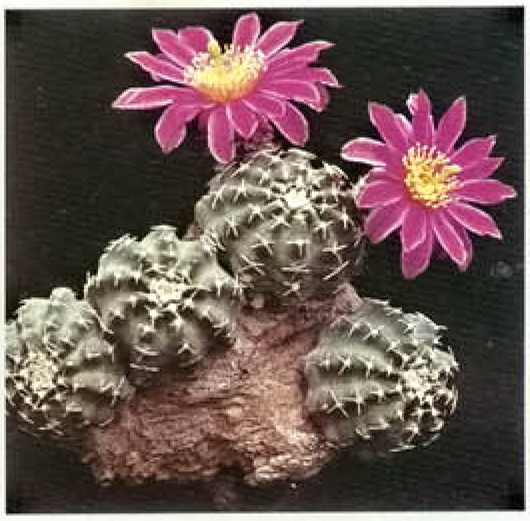

ECHINOCEREUS **PULCHELLUS** (Mart.) K. Sch.

More or less globular plants, branching from the base. The individual stems are 1½–2in thick, bluish green, with 11–13 low ribs notched into small prominences bearing whitish areoles. There are three to four yellowish to grayish spines, all radials, to ½in long. Flowers are a bright rose pink with white-edged petals, about 1½in long, and are diurnal in summer. Requires bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Hidalgo).*

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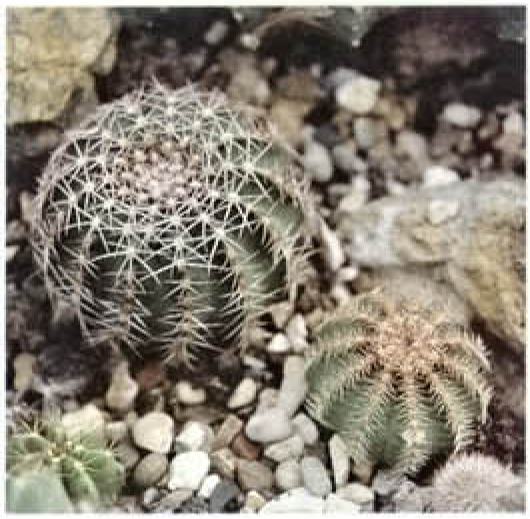

ECHINOCEREUS **PULCHELLUS var. WEINBERGII** (Weingt.) N. P. Taylor
Syn: *Echinocereus weinbergii* Weingt.

The grayish-green stems are globular becoming slightly elongated, about 4¾in in diameter, with about 15 ribs. Areoles, about ⅓in apart, bear about 10 short, thick white radial spines with brownish tips to ½in long; there are no centrals. Flowering diurnally in summer, the flowers are bright pink, about 2in long. Requires bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Zacatecas).*

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ECHINOCEREUS **RIGIDISSIMUS** (Engelm.) Rose
Syn: *Echinocereus pectinatus* (Engelm.) var. *rigidissimus* Engelm.

A globular to cylindrical plant to 1ft high, 1½–3½in thick, rarely offsetting, with 16–23 straight ribs bearing elongated areoles. The spines are whitish or in shades of red or brown made up of 15–23 radials, ¼–½in long and spreading like a comb; no centrals. Flowering early summer, bright pink to magenta, 2½–3in long, diurnal. Requires bright light; normal cactus compost; minimum temperature 50°F. *USA (Arizona, New Mexico), Mexico (Sonora).*

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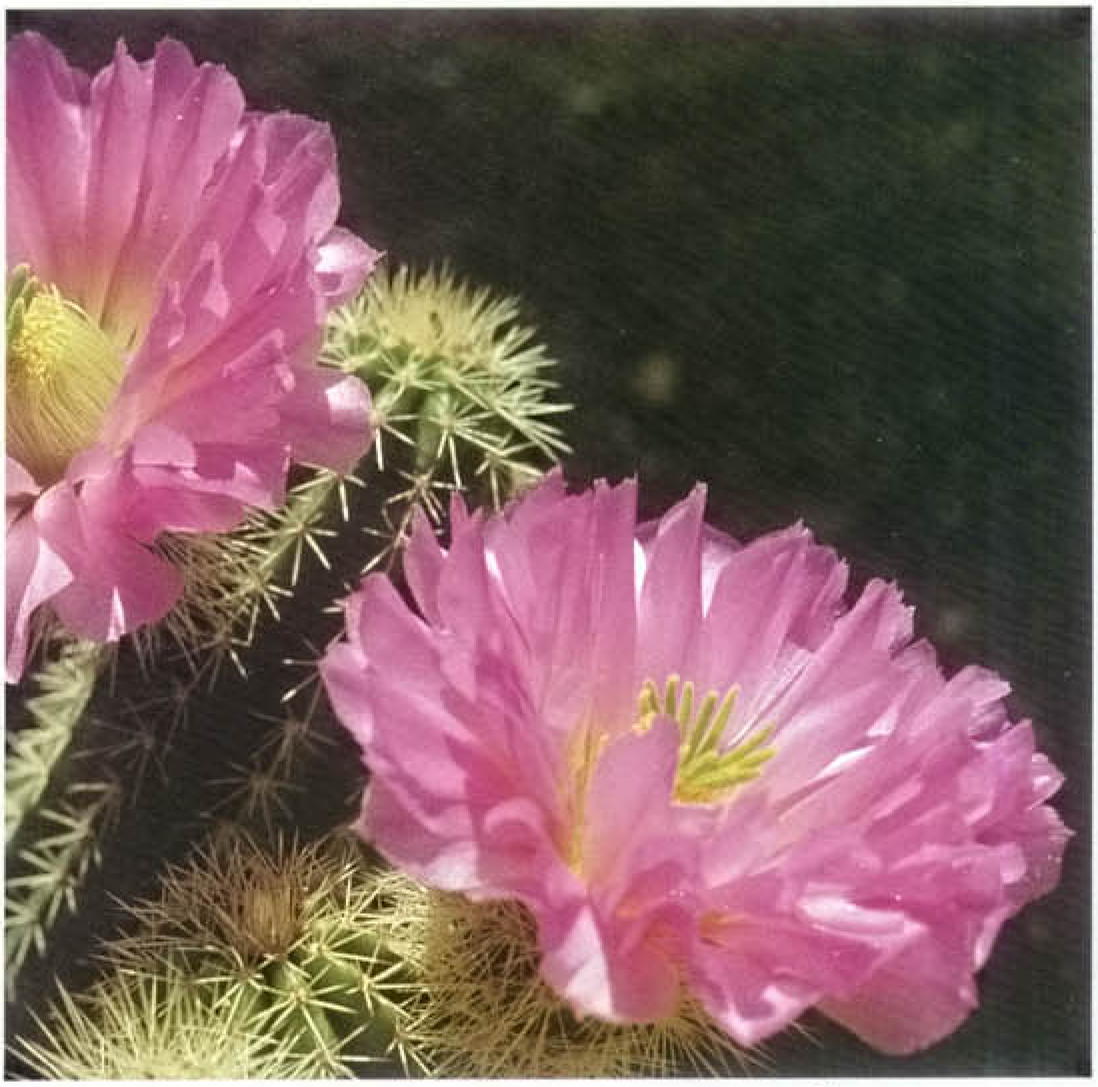

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ECHINOCEREUS **SPINIGEMMATUS** Lau

A clustering species, offsetting from the base. The stems are dark green, 1–2in thick with 10–12 slightly bumpy ribs. Areoles are brownish bearing yellowish-brown spines, six to eight radials ⅕–⅓in long, and one to three longer centrals. Flowering by day in summer, the blooms are about 2in across, and deep pink. Requires bright light; normal cactus compost; minimum temperature 50°F. *Mexico.*

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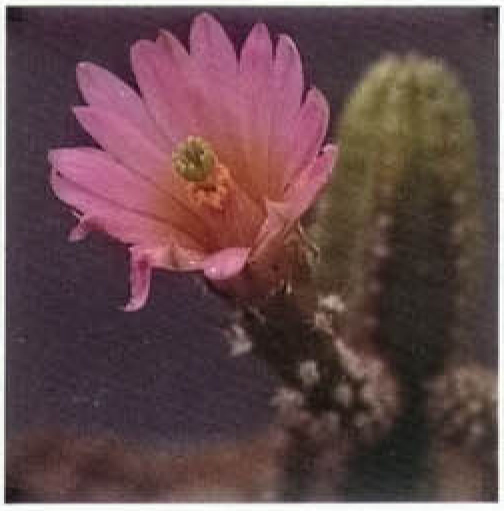

ECHINOCEREUS **SCHEERI** (Salm-Dyck) **var. GENTRYI** (Clov.) N. P. Taylor
Syn: *Echinocereus gentryi* Clov.; *Echinocereus nocturniflorus* Hort.

A slender, cylindrical plant with creeping or erect stems to 6in or more long, ⅔–1½in thick. Dull green, it has four to five ribs, scarcely tuberculate, with areoles bearing eight to twelve radial spines hardly 1⁄16in long and rarely one central. Summer flowering, the flowers are diurnal, bright pink and about 3¼in long. Requires bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Sonora, Chihuahua).*

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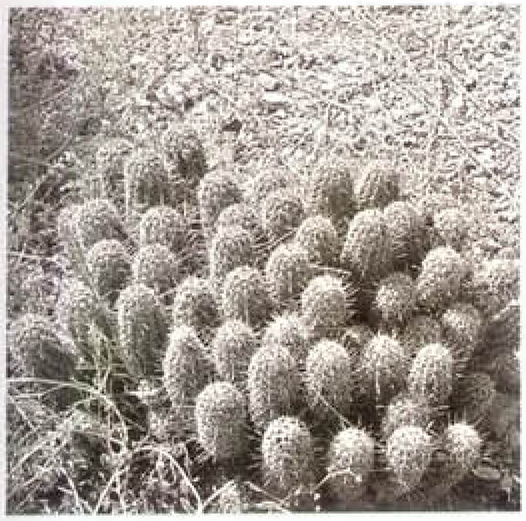
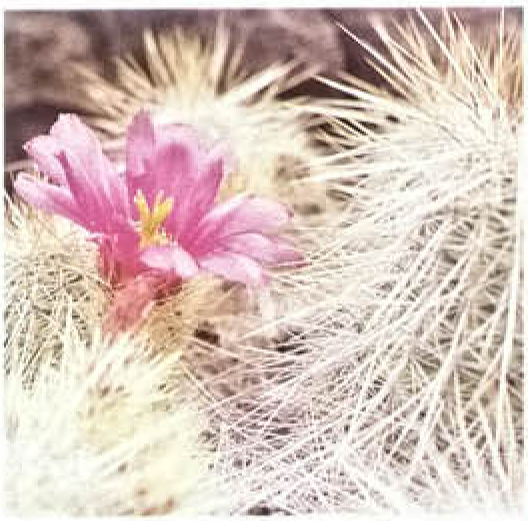


ECHINOCEREUS **STOLONIFERUS** W. T. Marsh

A grayish-green, stoloniferous plant with cylindrical stems to 1ft high, 2in in diameter, and 12–16 finely tuberculate ribs. Areoles ⅕in apart bear 10–12 whitish radial spines to ¼in long; there are three to four brownish centrals ½–1in in length. Flowers are borne laterally; they are bright yellow and funnel-shaped, up to 3¼in long, 3½–3¾in across when fully open. They appear by day in summer. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Sonora).*

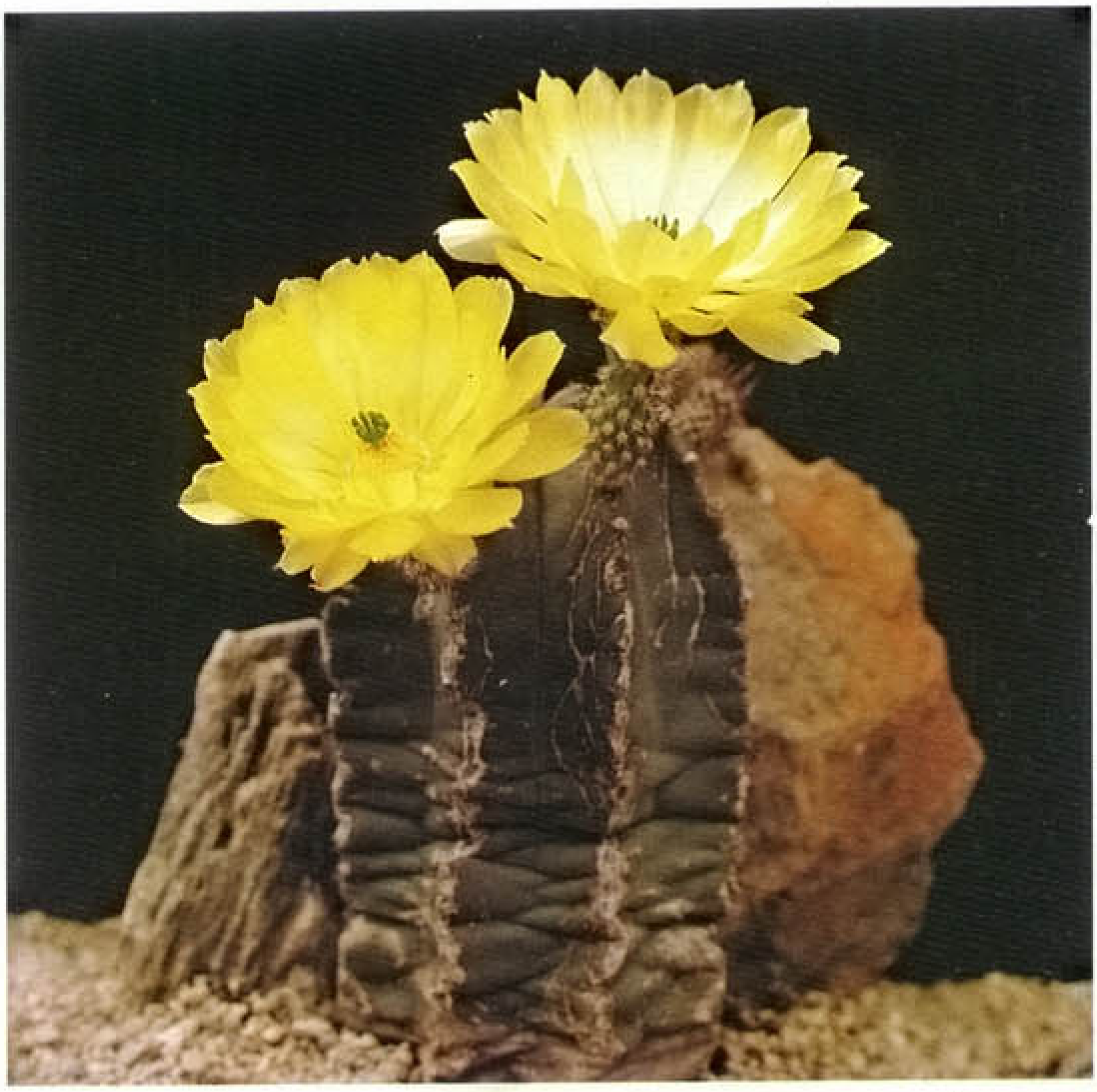


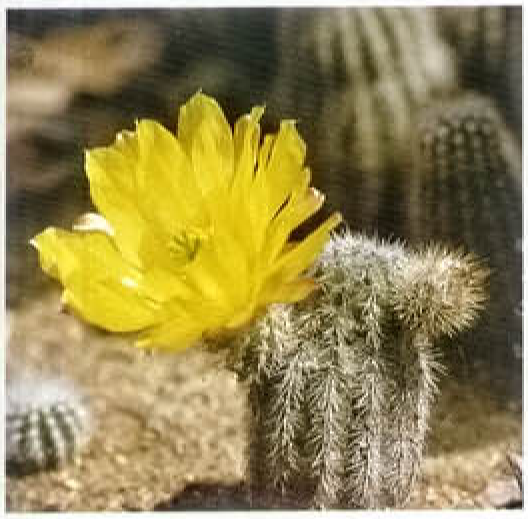
ECHINOCEREUS **STRAMINEUS** (Engelm.) Rümpl.

A clump-forming species, each pale-green stem is up to 10in long, 3¼in wide at the base, with 10–13 rather tuberculate, deeply furrowed ribs. The areoles are round, small, and white, about ⅔in apart, bearing seven to fourteen whitish radial spines to 1in long and one to four centrals 1½–3¼in long. The purple-pink flowers are funnel-shaped, 2½–4¾in long and wide, appearing by day in mid-summer. Requires good light; slightly calcareous cactus compost; minimum temperature 50°F. *USA (New Mexico, Texas), Mexico.*

ECHINOCEREUS **SUBINERMIS** Salm-Dyck

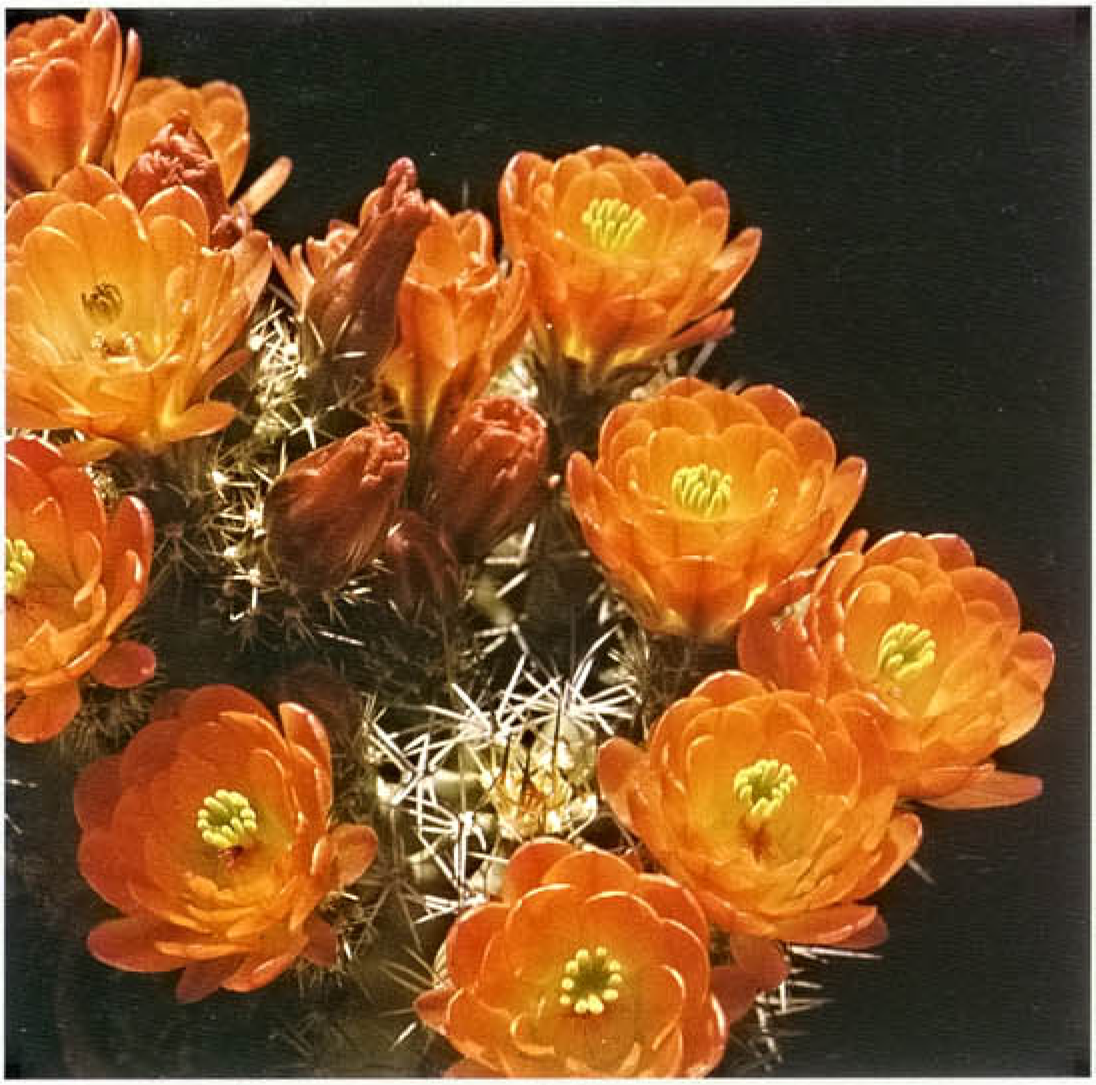
The stems are globular becoming elongated and clustering occasionally. Dull green, they are about 6in long, 3–3½in thick, with five to nine prominent ribs with narrow furrows between. Small woolly areoles bear three to eight radial spines and one central to ⅕in long, later becoming almost spineless. Day flowering in summer, the flowers are yellow, about 3¼in long and wide. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Central and Northern States).*





ECHINOCEREUS **STOLONIFERUS var. TAYOPENSIS** (W. T. Marsh) N. P. Taylor Syn: *Echinocereus tayopensis* W. T. Marsh

The grayish-green stems are cylindrical and up to 6in high, 2½–3¼in thick, occasionally offsetting, with 11–13 ribs bearing areoles set ⅕–⅖in apart. Spines are grayish: there are numerous radial spines, ½–⅔in long, and one to three centrals to 1in in length. Flowering by day in summer, the blooms are bright yellow, 3in long, 2½in across. Requires bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Sonora, Chihuahua).*



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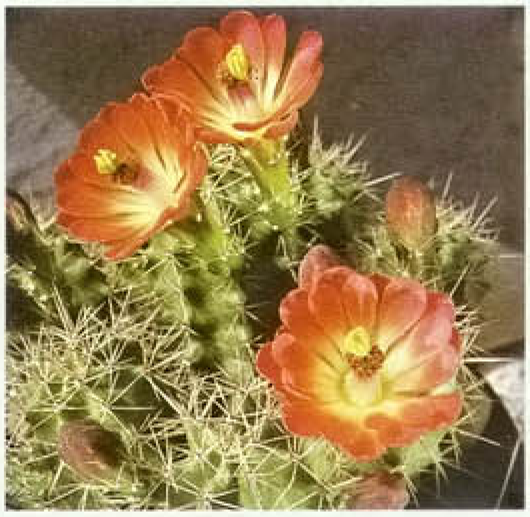
ECHINOCEREUS **TRIGLOCHIDIATUS** Engelm. **var. GONACANTHUS** Boiss.

Syn: *Echinocereus gonacanthus* (Engelm. & Bigelow) Lem.

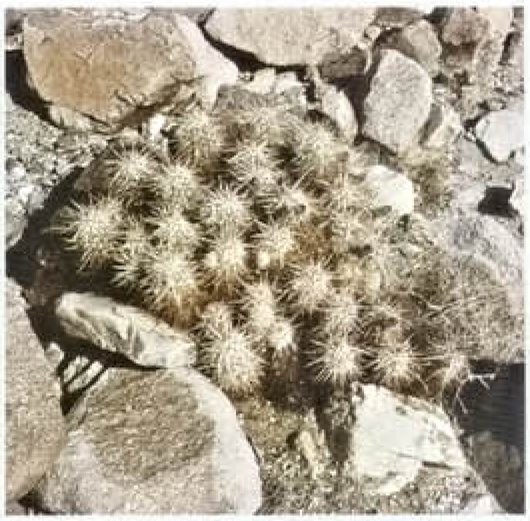
Stems are cylindrical and up to about 2½in thick, dull greenish with seven to nine more or less acute ribs. Areoles bear eight thick, grayish-yellow radial spines ⅔–¾in long and one yellowish, black-tipped central about 2½in in length. Day flowering in summer, the 1½–2in long flowers are a vivid yellowish orange. Requires sun; normal cactus compost; minimum temperature 50°F. *USA (Southern States).*



ECHINOCEREUS **TRIGLOCHIDIATUS var. MELANACANTHUS** (Engelm.) L. Benson

Syn: *Echinocereus melanacanthus* Engelm. ex W. H. Earle

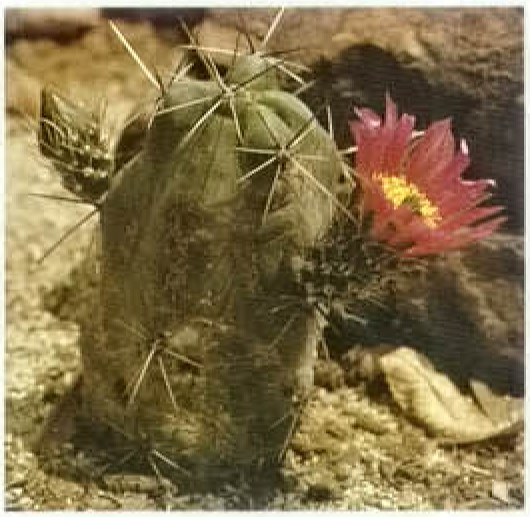
A freely clumping plant with many stems 3–6in long, 1–2in thick, and nine to ten tuberculate ribs. Spines mostly grayish, ¾–2½in in length, of which there are five to eleven radials and one to three centrals. Flowers are bright red, 1–2½in long, 1–1½in across, and are day flowering in mid-summer. Needs sun; normal cactus compost; minimum temperature 45°F. *USA (California).*



ECHINOCEREUS **TRIGLOCHIDIATUS var. MOJAVENSIS**(Engelm.) L. Benson

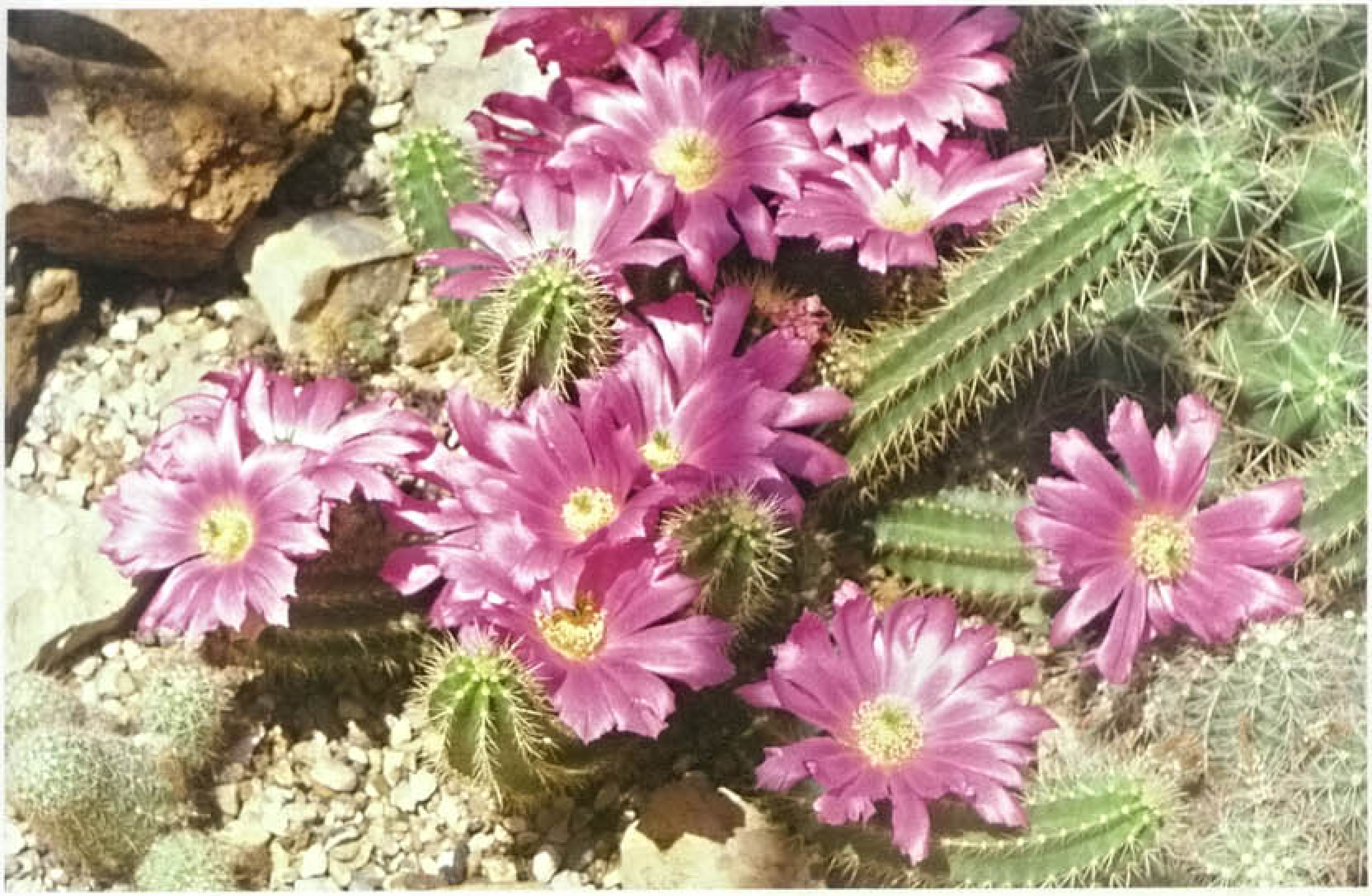
Syn: *Echinocereus mojavensis* Engelm. ex Rümpl.

A freely clustering, spreading species with stems 2–8in in length, about 2in thick. These are pale to grayish green, with whitish areoles set about ½in apart. The spines, initially reddish but soon turning gray, include about ten radials to 1in long and one central to 2in. Flowers are carmine red, 1½–2in long and across; they are diurnal, flowering in mid-summer. Requires sun; normal cactus compost; minimum temperature 50°F. *USA (California, Nevada).*



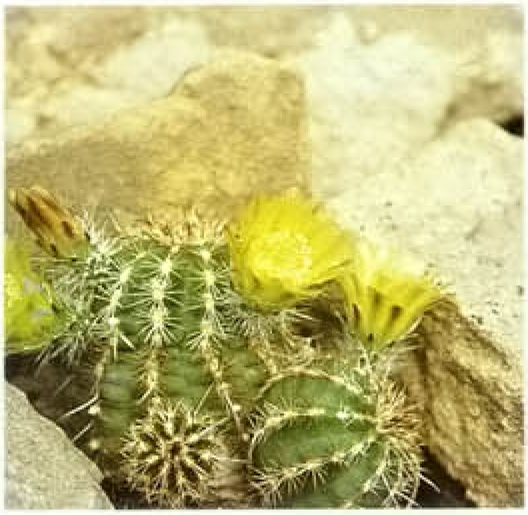
ECHINOCEREUS **TULENSIS** Bravo

A species which it seems should be rightfully placed, possibly with *E. enneacanthus.* Stems, to about 2in in diameter, are dull green with five to six bumpy ribs. Spines are grayish or brownish; there are about five to six radials and one to three centrals to ⅔–¾in long. Flowering in summer, and diurnal, the flowers are 2–2½in long, purplish-pink. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Northern States).*



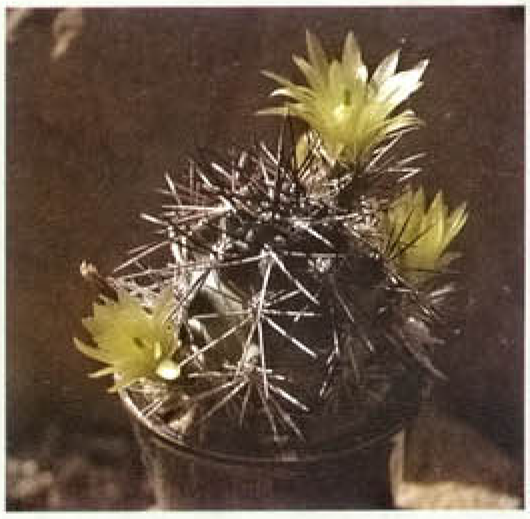
ECHINOCEREUS **VIERECKII** Werd.

A semi-prostrate species with long, pale green stems to about 8in, 1–1¾in thick, with seven to nine tuberculate ribs. Areoles are ⅕–⅓in apart bearing whitish or yellowish spines: seven to eleven radials up to about ½in long, and three to five centrals to ¾in or more long. Summer flowering, the diurnal flowers are about 3–4in in diameter, deep pink or magenta. Requires bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Tamaulipas).*



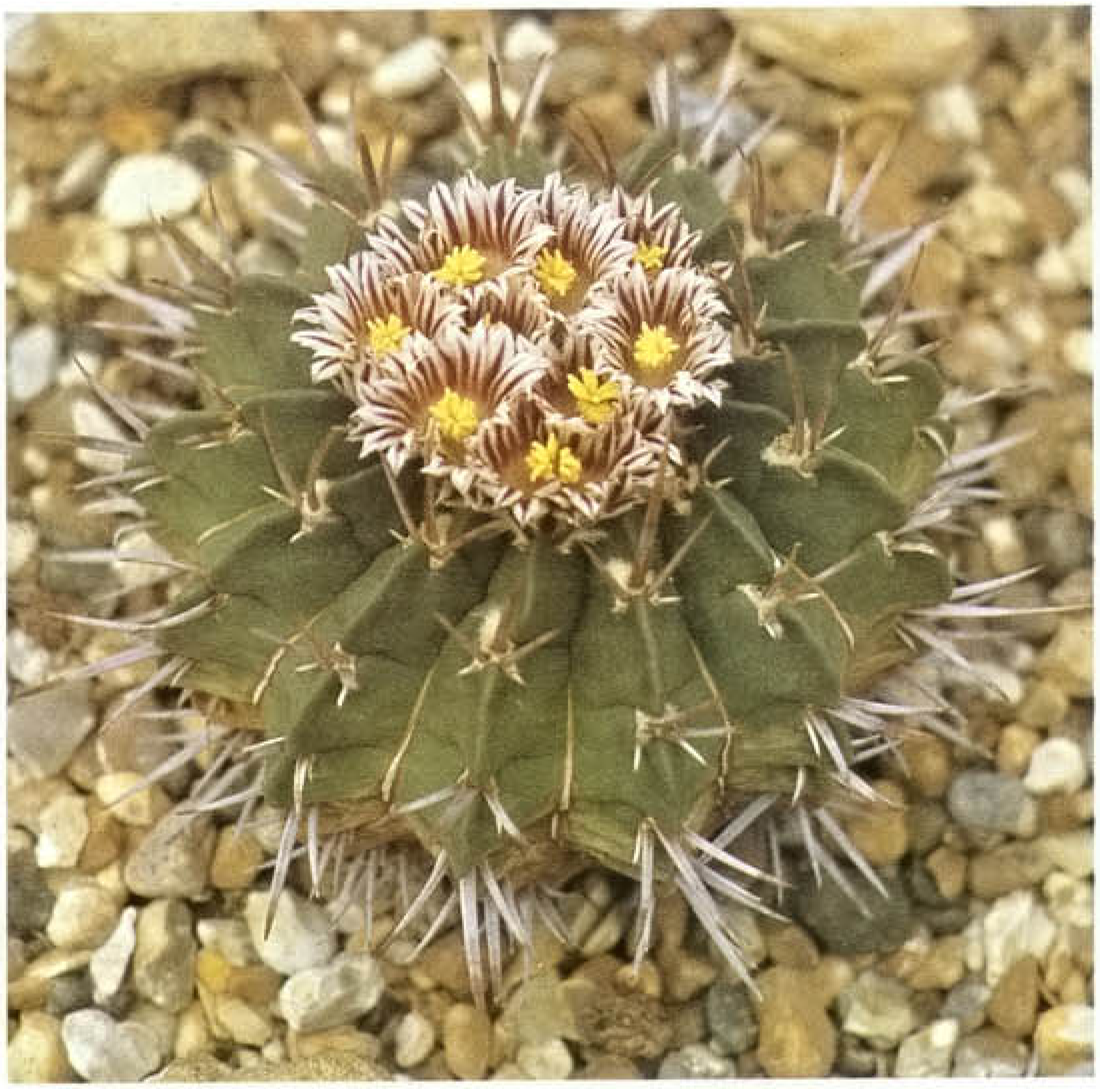
ECHINOCEREUS **VIRIDIFLORUS** Engelm.

A dull to fresh green plant with somewhat globular stems to 3in long, ¾–2in thick, and 13–15 ribs. The spines are white or brownish arising from elongated areoles. There are 13–15 radials about ⅕in long, and zero to three central spines, up to 1in in length when present. Flowering by day in summer, the flowers are up to 1in long and across and greenish-yellow with a darker midstripe. Requires bright sun; normal cactus compost; minimum temperature 50°F. *USA (Southern States).*



ECHINOCEREUS **VIRIDIFLORUS var. DAVISII** (Houghton) Marsh.

Very short, dull-green stems of a depressed globular shape. There are six to seven ribs with areoles bearing nine to twelve radial spines, rarely one central; these are reddish or grayish and up to ⅔in long. The flowers are greenish yellow, 1in long, ¾in across, and appear diurnally, in summer. Requirements as for the species. *USA (Texas).*



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ECHINOFOSSULOCACTUS **COPTONOGONUS** (Lem.) Lawr.
Syn: *Stenocactus coptonogonus* (Lem.) Berger

A globular, grayish-green plant with 10–15 straight, notched ribs, 2–4in high, to 4⅓in in diameter. The areoles are set ¾–1in apart in the notches. Spines are reddish, becoming yellowish, about 1in long and curved upward; three to five in number. Spring flowering, and diurnal, the flowers are a whitish purple with a prominent pinkish-brown median line to the petals. Requires full sunlight; normal cactus compost; minimum temperature 50°F. *Mexico (Hidalgo etc.)*

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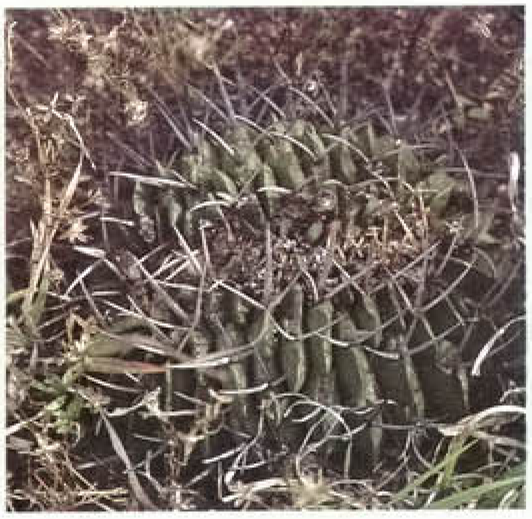

ECHINOFOSSULOCACTUS **COPTONOGONUS fma CRISTATE FORM**

Only on rare occasions is a crested form of this species discovered, and frequently only the spination reveals its specific status.

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ECHINOFOSSULOCACTUS
DICHROACANTHUS (Mart.) Br. & R.
Syn: *Stenocactus dichroacanthus* (Mart.) Berger

A somewhat oval-shaped, pale green plant to 6in high, 4in wide with about 32 acute, wavy ribs. The roundish areoles are set at intervals of ¾–1½in, and bear four to six reddish or grayish spines, some to ¾in in length. Late spring flowering, and diurnal, the flowers are pinkish violet. Needs a sunny position; normal cactus compost; minimum temperature 50°F. *Mexico (Hidalgo).*

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ECHINOFOSSULOCACTUS **ERECTOCENTRUS** Backeb.

A more or less globular plant to about 2in high, 3¼in in diameter, dark grayish green in color with about 50 or more ribs. The areoles are about ¾in apart, bearing five to six or more pale, yellowish-brown radial spines about ½in long, but one of these up to about 2in in length. There are two yellowish central spines, about ¾in long. Flowers are whitish, around ¾in long, and diurnal in summer. Needs good light; normal cactus compost; minimum temperature 50°F. *Mexico.*

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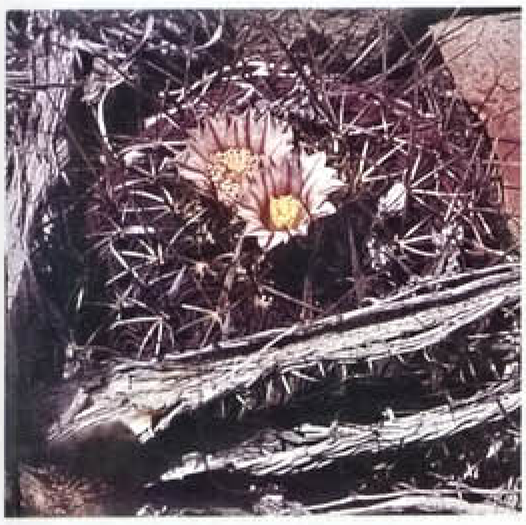
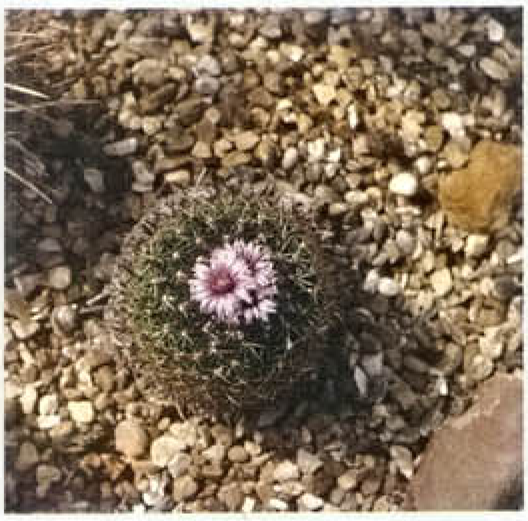


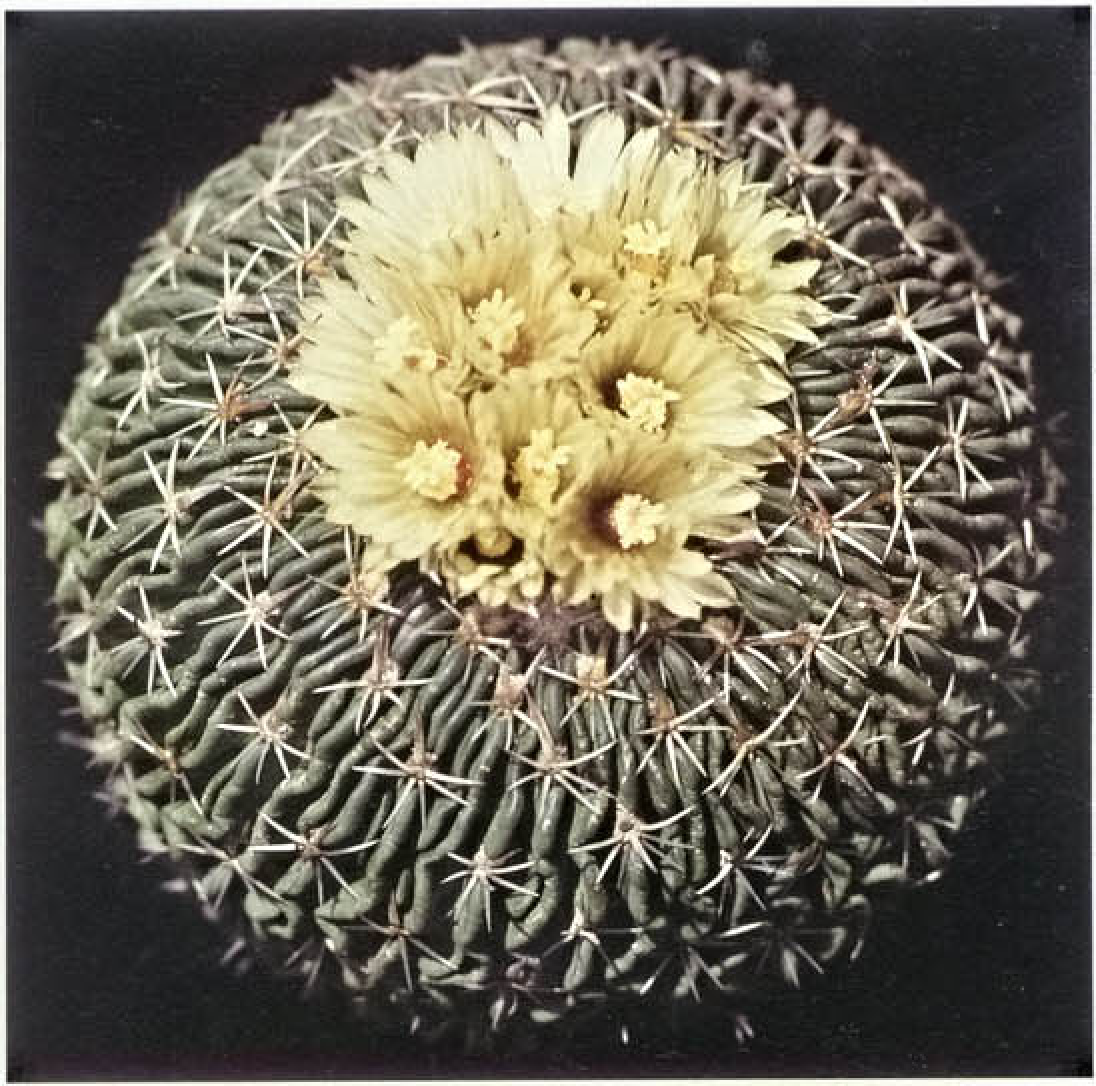
ECHINOFOSSULOCACTUS MULTICOSTATUS (Hildm.) Br. & R.
Syn: *Stenocactus multicostatus* (Hildm.) Berger

Dark green globular species about 4in wide, flattened on top, with up to 100 ribs, each with about two white woolly areoles. Six to nine spines, up to 1½in in length and yellowish or grayish. Day flowering in late spring, the flowers are 1in long, whitish with a purplish-violet median line. Requires a bright, sunny position; normal cactus compost; minimum temperature 45°F. *Mexico (Durango, Coahuila).*



ECHINOFOSSULOCACTUS OCHOTERENAUS Tiegel.

A bluish-green globular plant 3in high, 4in in diameter, with about 30 wavy-edged ribs. The yellowish areoles bear many glassy-white radial spines ½in long and four brownish-yellow centrals, the uppermost often to 2½in in length. Spring flowering, and diurnal, the flowers are pale pink or whitish with a purplish median line and throat. Requires full sun; normal cactus compost; minimum temperature 55°F. *Mexico (Guanajuato).*



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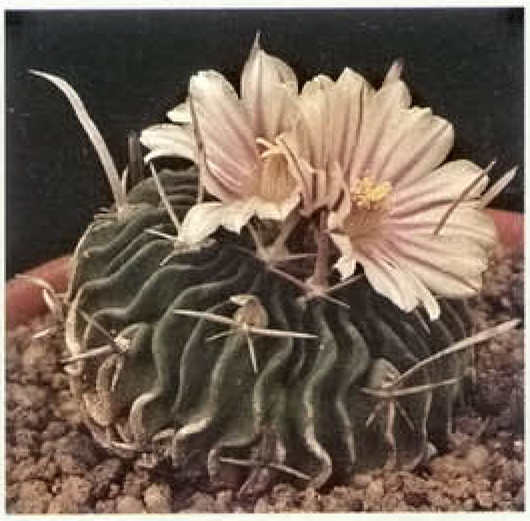
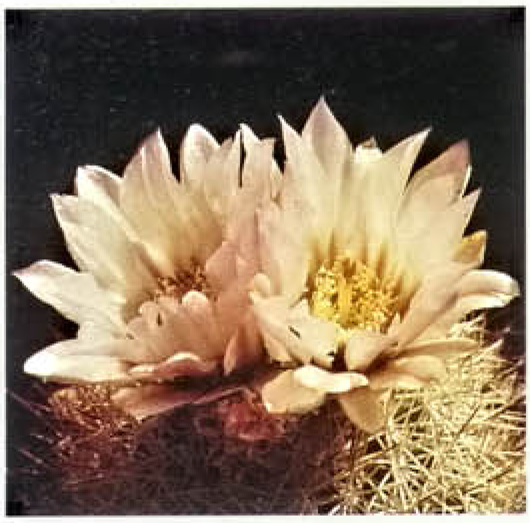
ECHINOFOSSULOCACTUS PHYLLACANTHUS (Mart.) Lawr.
Syn: *Stenocactus phyllacanthus* (Mart.) Berger

A dark bluish-green globular plant about 3¼in in diameter with 30–35 thin, wavy-edged ribs bearing areoles set about 1in apart. The spines are red, passing to brown. There are two to seven in all, the upper three, 7½–3¼in long, are flat, the others slender and spreading. Day flowering in late spring, the blooms are up to ¾in long and yellowish white with a brownish-red throat. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Hidalgo).*



ECHINOFOSSULOCACTUS PENTACANTHUS (Lem.) Br. & R.
Syn: *Stenocactus pentacanthus* (Lem.) Berger

Grayish-green globular plants 3–3¼in in diameter with 30–40 wavy-edged ribs bearing very few grayish areoles. These have five grayish-brown spines, the upper ones to 2in long, the lower to ½in. Flowering diurnally in spring, the flowers are ¾in long, whitish with a pale purple midstripe. Requires full sun; normal cactus compost; minimum temperature 50°F. *Central Mexico.*



ECHINOMASTUS **ACUNENSIS** Marsh.

A short, cylindrical plant about 6½in high, 4in in diameter with a spindle-shaped rootstock. There are 18 low-set ribs with white woolly areoles, 12 whitish, spreading radial spines and three to four reddish-tipped centrals about 1in long. Flowers are diurnal in summer, with pale pink inner petals shaded deeper in the throat, reddish-pink externally on the outer ones, about 1in long and across. Requires bright sun; enriched porous compost plus a little lime and humus; minimum temperature 50°F. *USA (Arizona).*

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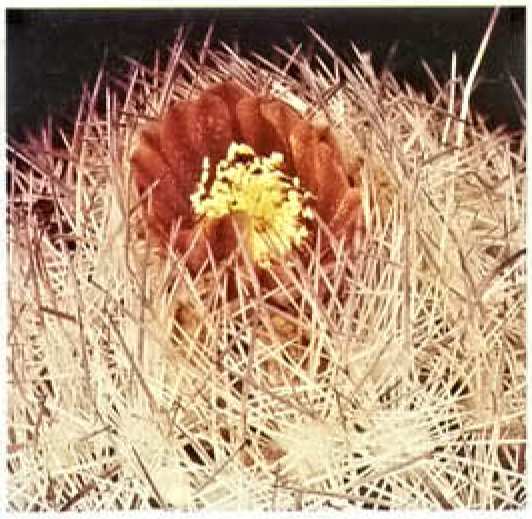

ECHINOMASTUS **DURANGENSIS** (Runge) Br. & R.

Syn: *Neolloydia durangensis* (Runge) L. Benson

Plants are solitary 3¼–4in high, 2–3¼in broad, dark green, with 18 ribs divided into warts up to ⅓in high. The areoles bear about 30 grayish-black radial spines, ⅔–1in long, and four upward-pointing centrals of similar length and color. Flowering diurnally in summer, the flowers are ¾–1in with reddish purple petals edged with pink. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Durango).*

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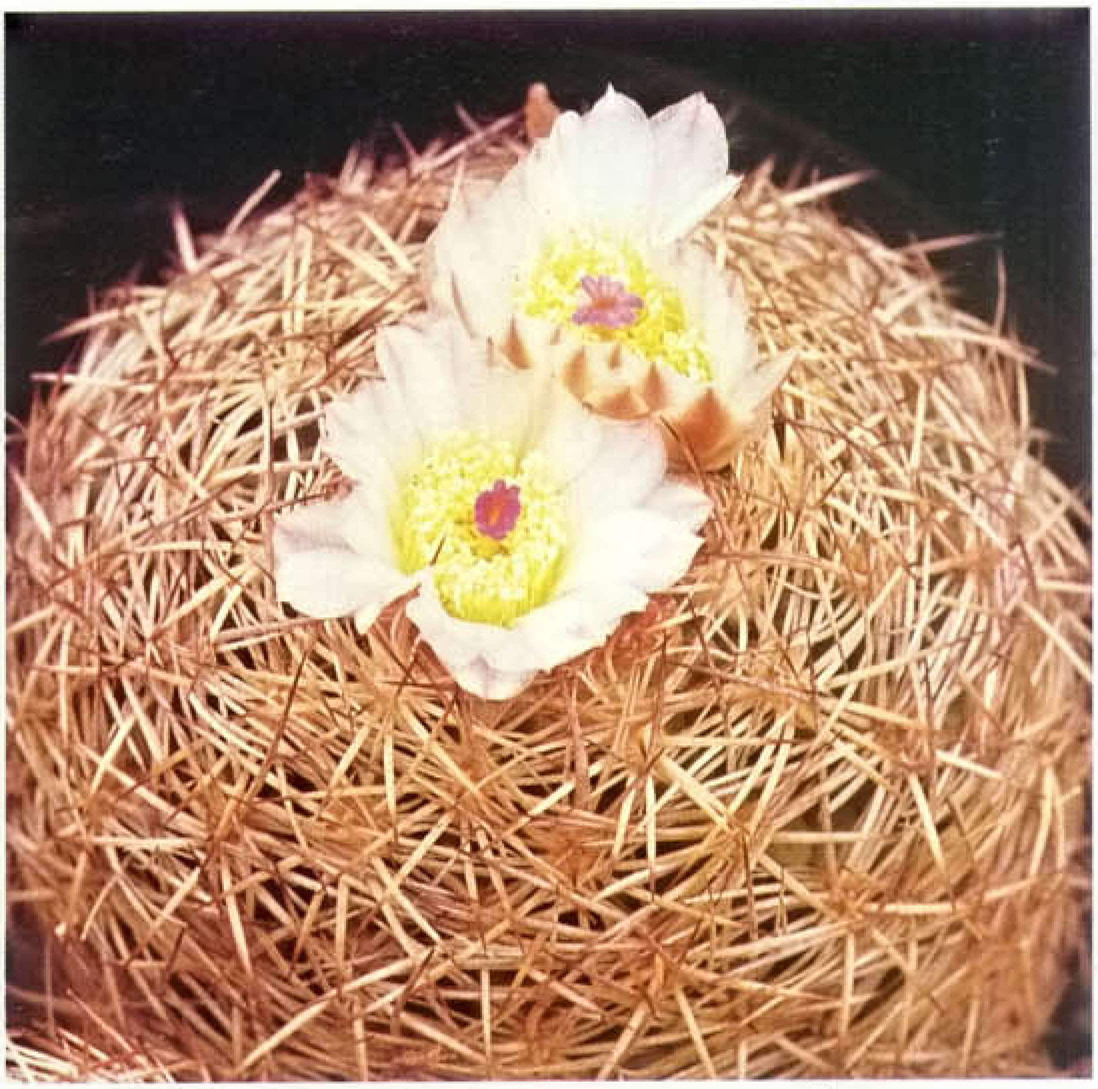

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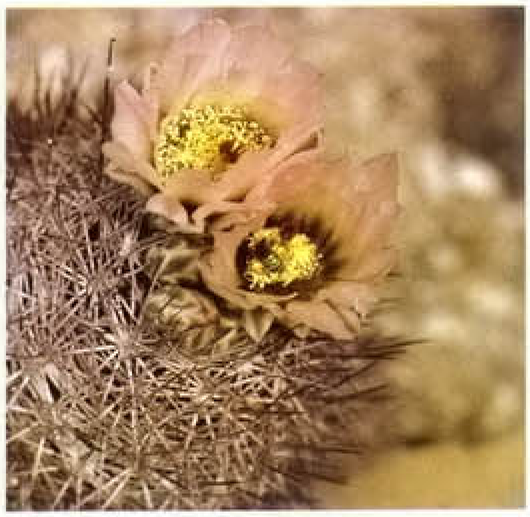

ECHINOMASTUS **ERECTOCANTRUS** (Coult.) Br. & R.

Syn: *Sclerocactus erectocentrus* (Coult.) N. P. Taylor; *Echinocactus erectocentrus* Coult.

Globular, bluish-green to 8in tall, 4in in diameter, covered in whitish spines. 14–21 notched ribs carry elongated areoles with 14–21 radial spines, ½in long, and one longer central. Flowering in summer, diurnal, flowers are 1–2in long, ¾in across, pink with a dark throat. Needs full sun; normal cactus compost with a little lime; minimum temperature 50°F. *USA (Arizona).*

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ECHINOMASTUS **INTERTEXTUS** (Engelm.) Br. & R.

Syn: *Echinocactus intertextus* Engelm.; *Neolloydia intertexta* (Engelm.) L. Benson

A green globular plant about 3½in high, 3in in diameter, with 13 tuberculate ribs and numerous spines covering the body of the plant. The spines are whitish red consisting of 16–25 radials ½–⅔in long, and four centrals ¾in in length. Flowers are diurnal in summer, ¾in long and across. Requires full sun; slightly calcareous cactus compost; minimum temperature 50°F. *USA (Southern States).*

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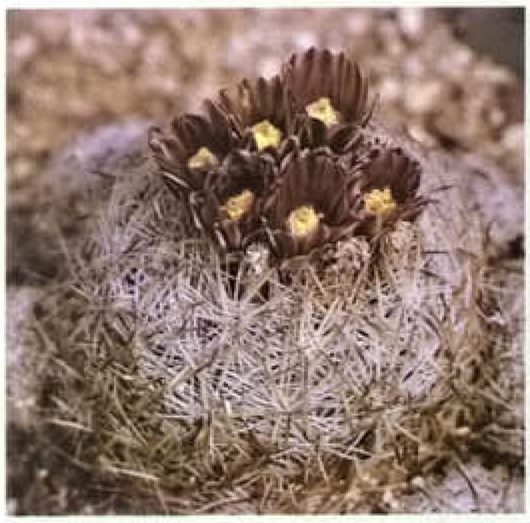
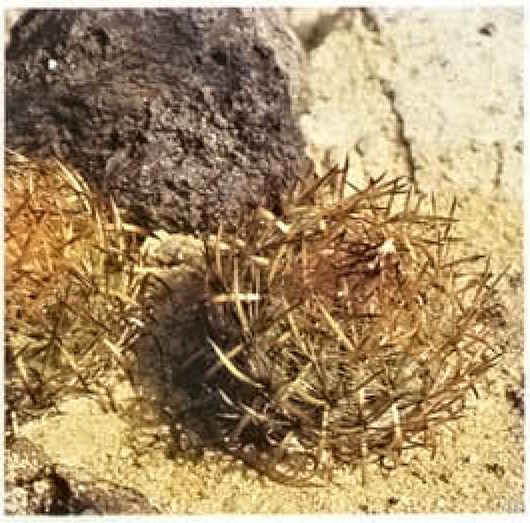
ECHINOMASTUS **MARIPOSENSIS** Hester
Syn: *Neolloydia mariposensis* (Hester) L. Benson; *Sclerocactus mariposensis* (Hester) N. P. Taylor

A short, cylindrical plant to 3½in high, 2½in wide, covered with spines. It has 21 ribs with areoles bearing 25–35 whitish radial spines ⅕–¼in long and four to six brownish tipped centrals to ⅔in long. Flowers which are diurnal and summer flowering, are rose pink, pale pink, or pinkish white, about 1in long and about 1in across. Needs a sunny position; a slightly calcareous cactus compost; minimum temperature 50°F. *USA (Texas).*



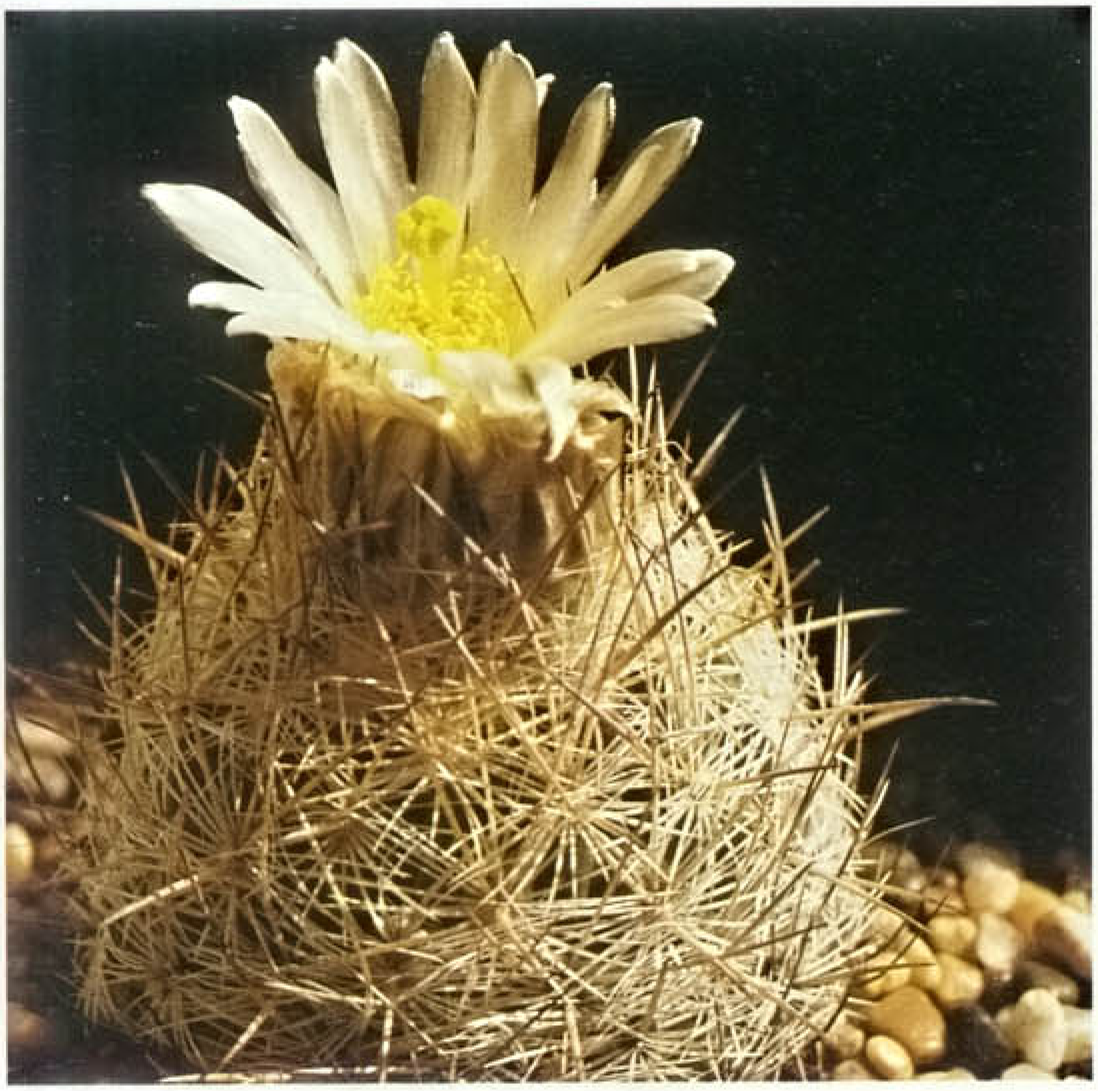
ECHINOMASTUS **UNGUISPINUS** (Engelm.) Br. & R.
Syn: *Neolloydia unguispina* (Engelm.) L. Benson

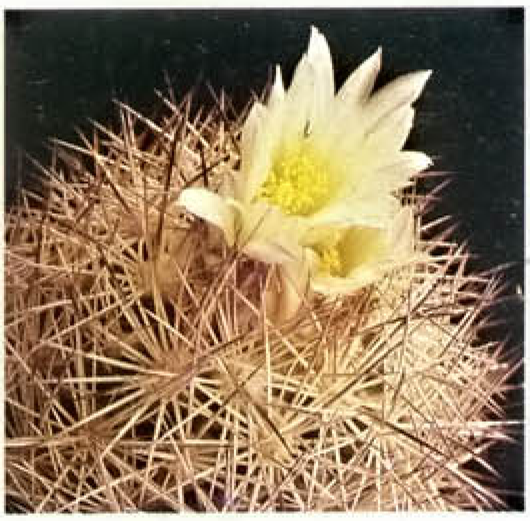
Bluish-green globular plants, to 4¾in high and about 4in wide. They have large woolly areoles bearing about 25 whitish radial spines to ¾in long, and four to eight thicker brownish centrals. Flowers are a deep reddish brown, about 1in long, ¾in across, and are day flowering in summer. Requires bright light; a permeable, slightly calcareous but enriched compost; minimum temperature 50°F. *Mexico (Chihuahua, Zacatecas).*



ECHINOMASTUS **UNGUISPINUS var. LAUI** (Frank & Zecher) Glass & Foster
Syn: *Echinomastus laui* Frank & Zecher

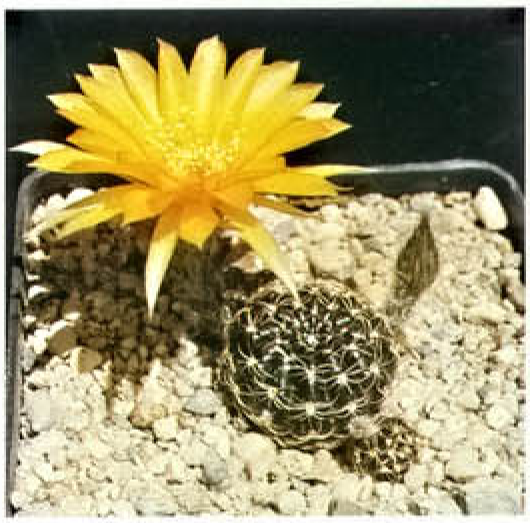
This has a more flattened stem than the species, but is generally globular to about 4in in diameter. It has about 20 tubercled ribs with whitish areoles, having around 20 radial spines ¾in long and four to six centrals to 1in; these are reddish brown. Flowers are pale yellowish green with a violet-brownish median stripe to the petals, appearing by day in summer. Requires a sunny position; normal cactus compost; minimum temperature 55°F. *Mexico (San Luis Potosi).*





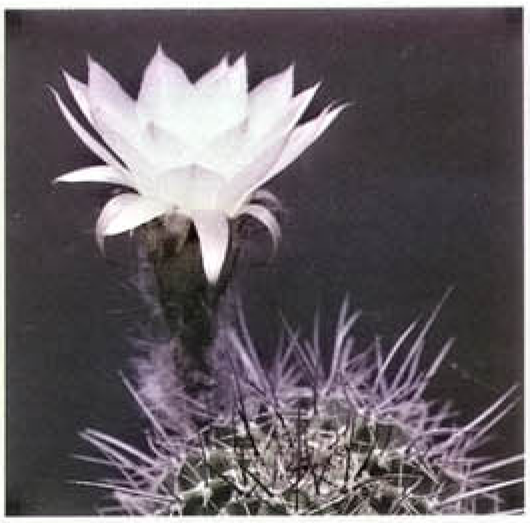
ECHINOMASTUS **WARNOCKII** (L. Benson) Glass & Foster
Syn: *Neolloydia warnockii* L. Benson; *Sclerocactus warnockii* (L. Benson) N. P. Taylor

Stems are solitary, globose or ovoid, and spiny. Up to 4¼in long, 3¼in wide. Ribs divided into tubercles with areoles bearing 12–14 radial and two or more central spines, whitish with brownish tips, ½–1in long. Flowering by day in mid-summer, yellowish white, 1in across. Requires bright light; slightly calcareous compost; minimum temperature 50°F. *USA (Texas), Mexico (Chihuahua).*



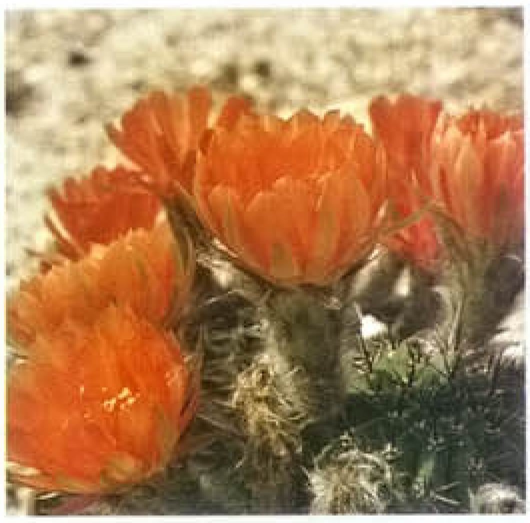
ECHINOPSIS **ARACHNACANTHA** (Buin. & Ritter) Friedr.
Syn: *Lobivia arachnacantha* Buin. & Ritter

A roundish plant about ¾in high, 1½in thick, dark green in color with 14 ribs. The areoles bear about 15 dark-brownish radial spines which later turn whitish, and one dark central spine, all about ⅕in long. Flowers are yellow to orange, 1–1½in across, appearing by day in summer. Requires bright light, which is essential; normal cactus compost; minimum temperature 50°F. *Bolivia (Samaipata).*



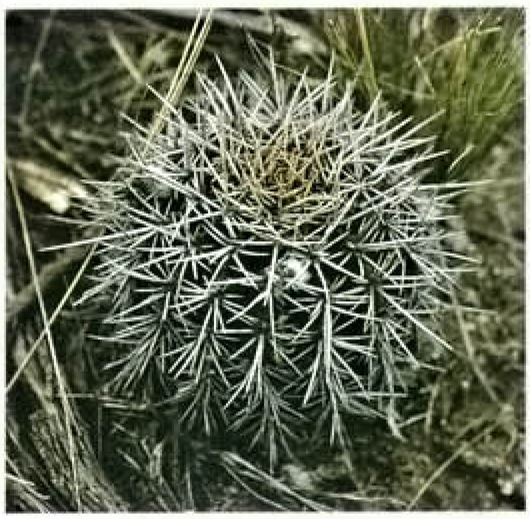
ECHINOPSIS **AUREA var. ALBIFLORA** Rausch
Syn: *Lobivia aurea* var. *albiflora* Rausch

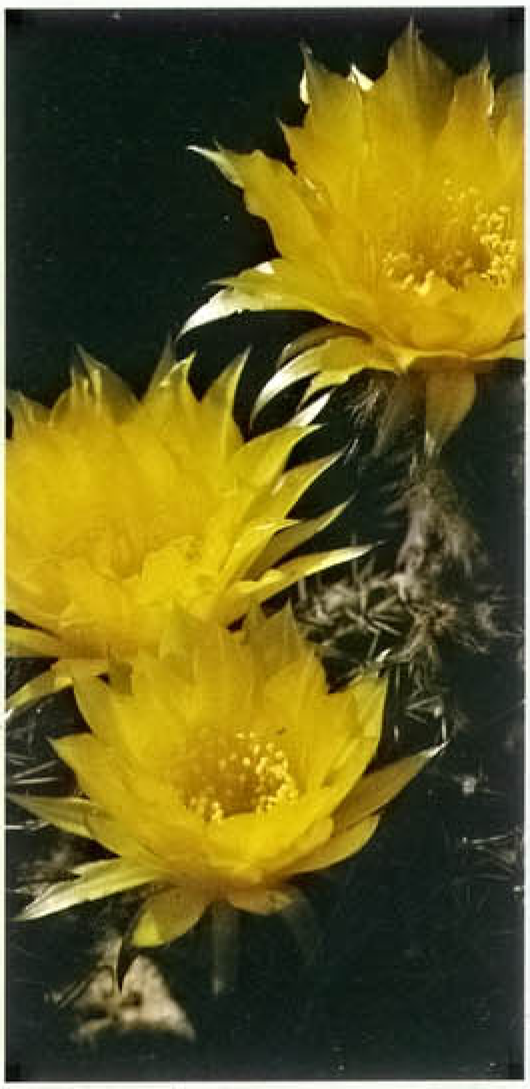
Very similar to the type species, this globular dark green plant 2½–3in or more in diameter has six to eight or more pale brown radial spines and one to three longer centrals which are initially dark reddish brown, but later similar to radials. Flowers are white, with the petals slightly tinged pinkish at the tips. They are diurnal, flowering in summer. Requires normal cactus compost; bright light; minimum temperature 50°F. *Argentina (Cordoba).*



ECHINOPSIS **AUREA** Br. & R. **var. AURANTIACA** (Backeb.) Rausch
Syn: *Lobivia famatimensis* var. *aurantiaca* (Backeb.) Backeb.

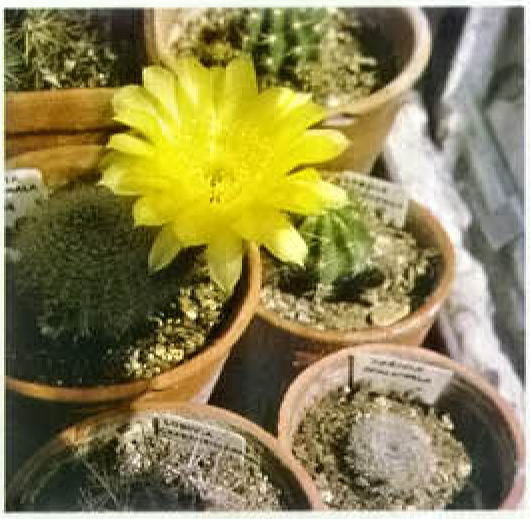
Dark green, more or less globular plants 3–3¼in in diameter, with about 16 ribs. The areoles are large, bearing six to eight or more pale brown radial spines and one to three or four dark brown centrals. Flowers, which are diurnal, appearing in summer, are 2–2½in long and a deep orange-yellow or pale reddish orange. Requires bright light; normal cactus compost; minimum temperature 50°F. *Argentina.*





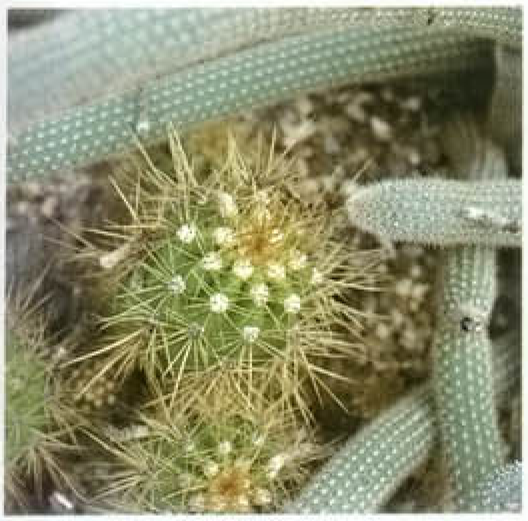
ECHINOPSIS **AUREA** Br. & R.
Syn: *Lobivia aurea* (Br. & R.) Backeb.

A more or less globular plant to 4in high, 2½–3in thick, offsetting from the base. The stems are dark green with 14–15 ribs; areoles, set about ½in apart, bear eight to ten pale brown radial spines and about four blackish-brown centrals to 1in long. Flowering in summer, and diurnal, the flowers are bright yellow, about 3½in long, 3¼in across. Needs sun; normal cactus compost; minimum temperature 50°F. *Argentina (Cordoba).*



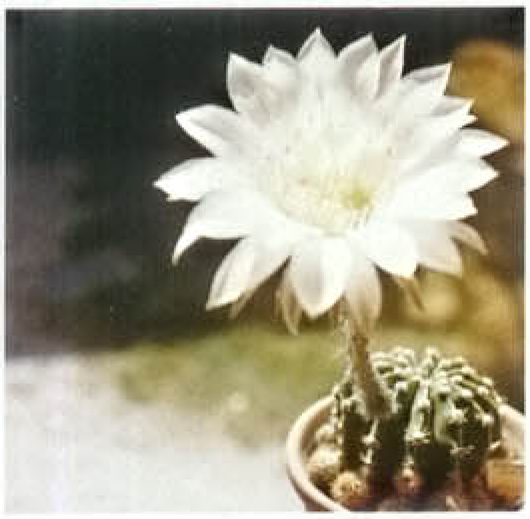
ECHINOPSIS **AUREA** Br. & R. **var. LEUCOMALLA** (Wessn.) Rausch
Syn: *Lobivia famatimensis* var. *leucomalla* (Wessn.) Backeb.

A dark green globular species 2–2½in in diameter, with about 20 ribs. The areoles bear numerous whitish-gray spines which densely cover the whole body of the plant. Flowers are bright yellow, 2½in or more long and across: they are summer flowering, and diurnal. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Argentina.*



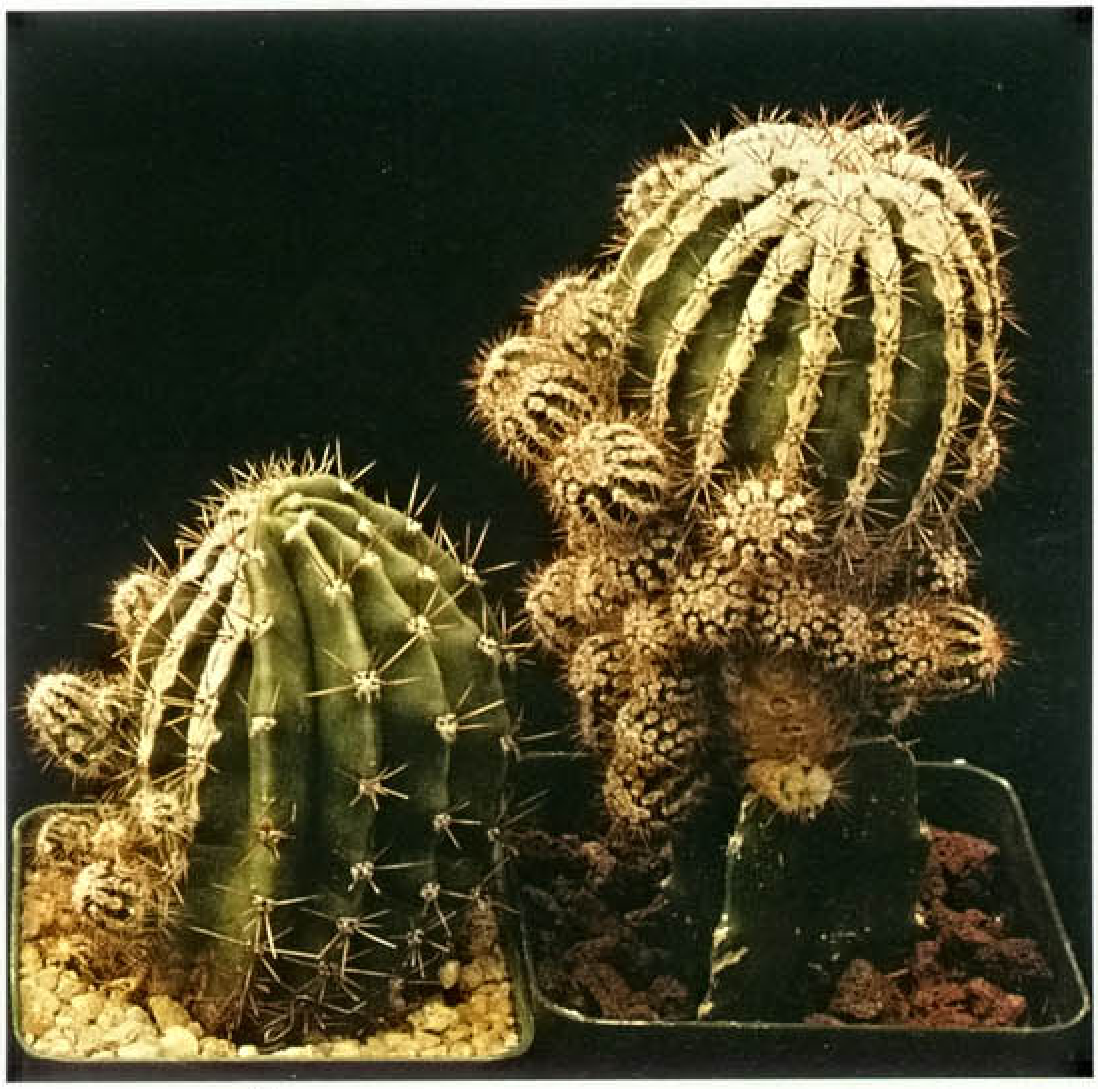
ECHINOPSIS **CANDICANS** (Gillies ex Salm-Dyck) F. A. C. Weber ex D. R. Hunt Syn: *Trichocereus candicans* (Gillies) Br. & R.

Erect or semi-prostrate bright-green plants to about 2½ft high, 6⅓in thick, with nine to eleven prominent ribs. Areoles are large and whitish, bearing 10–14 yellowish-brown radial spines up to 1½in long and one or more longer centrals to 4in in length. Nocturnal flowering in summer, the flowers are white, 7–10in long. Requires a bright position; normal cactus compost; minimum temperature 50°F. *Argentina.*



ECHINOPSIS **EYRIESII** Zucc.

A popular dark green globular species, later elongating to become somewhat cylindrical and ultimately 4¾–6in thick, offsetting freely. It has 11–18 deeply furrowed ribs. Areoles are about 1in apart, grayish, and bearing up to 10 radial and four to eight brown central spines, up to ⅕in in length. Flowers are nocturnal, opening late afternoon in summer; they are white, and 7–10in long, 4–4¾in across. Requires bright light; normal cactus compost; minimum temperature 50°F. *Argentina, Uruguay, Southern Brazil.*



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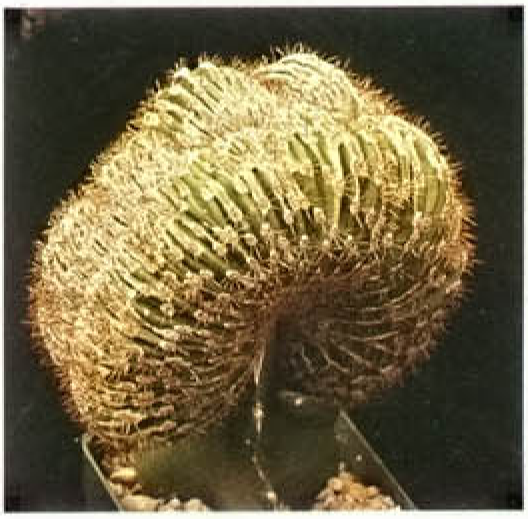
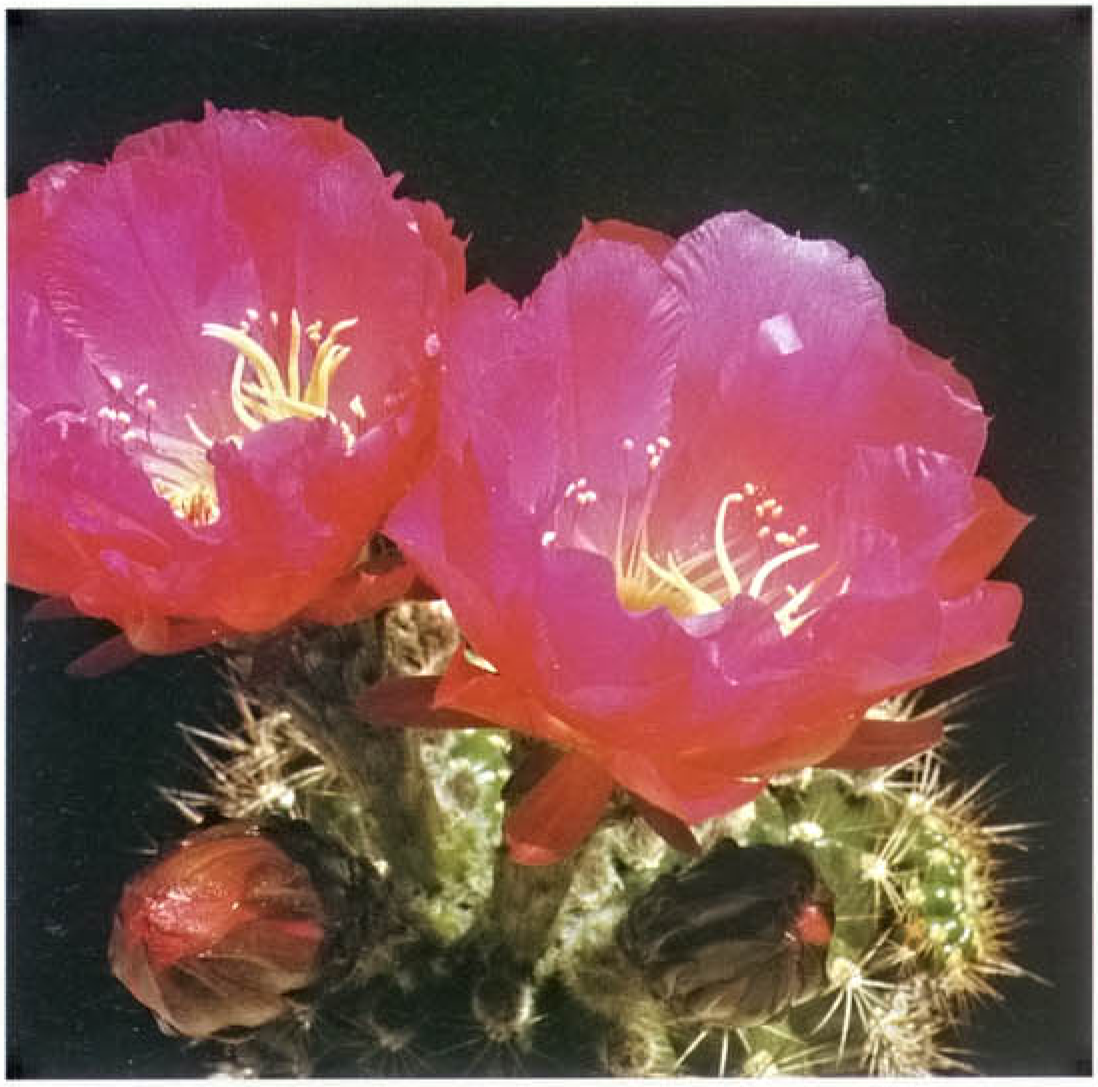
ECHINOPSIS **'Haku-jo'**

This plant is an oddity originating from Japan, but how the bizarre and abnormal growth was developed has still to be revealed. Obviously related to *E. multiplex* and *E. tubiflora*, it might just prove to be a mutation. Flowers are creamy white, about 4in long and about 3in in diameter, and bloom by day in summer. Requires slight shade; normal cactus compost; minimum temperature 55°F.



ECHINOPSIS **'Haku-jo cristata'**

Another oddity depicting the additional abnormal growth termed "monstrose" or "cristate." Flowers and requirements are the same as for E. 'Haku-jo'.



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ECHINOPSIS **KERMESINA** Krainz

Currently considered a variety of *E. mammillosa* Gürke. The plants are globular, up to 6in in diameter and a rich green, having 15–23 ribs with areoles bearing 11–16 reddish-yellow radial spines about ½in long and four to six darker centrals to 1in. Day flowering in mid-summer, the flowers are carmine red, up to 7in long, 3½in across. Needs bright light which is essential; normal cactus compost; minimum temperature 55°F. *Argentina*.

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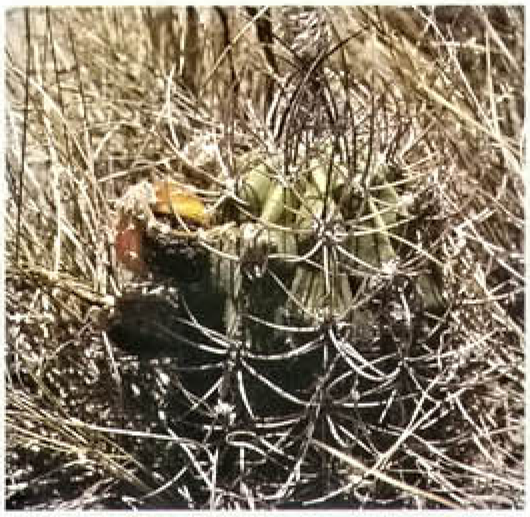

ECHINOPSIS **LEUCANTHA** Walp.
Syn: *Echinopsis salpingophora* Lem.

Globular to elongating grayish-green plants about 4¾in in diameter. There are about 14 ribs, slightly notched, with areoles ½–⅔in apart bearing about 10 radial spines to 1in long, and one thick central, curved upward to 4in in length. Flowers are white with orange tips, the outer segments brownish green. Night flowering in summer, it requires filtered light; normal cactus compost; minimum temperature 50°F. *Western Argentina (Catamarca)*.

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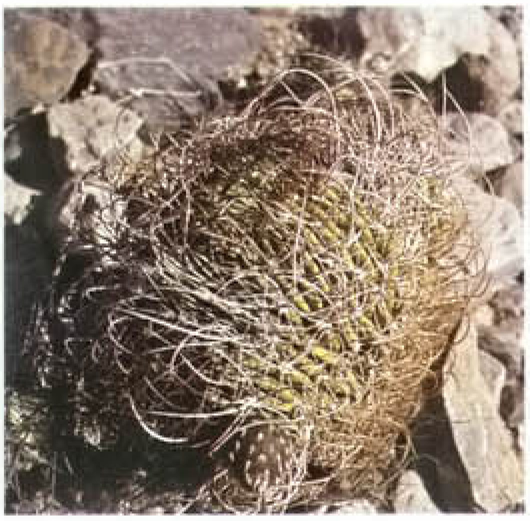

ECHINOPSIS **LEUCANTHA fma CRISTATA**

An unusual monstrose form discovered at Maradona, San Juan, Argentina. Spine and flower color are similar to type. Cultural requirements are as for the species.

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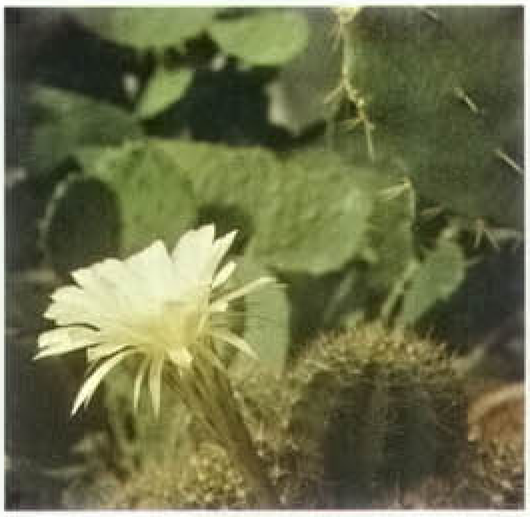

ECHINOPSIS **MULTIPLEX** (Pfeiff.) Zucc.

A pale green or yellowish-green globular plant up to 6in or more tall, freely offsetting from the base and sides. It has 12–15 deeply furrowed ribs with white woolly areoles set about ¾in apart. Spines are yellowish brown tipped darker, made up of five to fifteen (usually 10) radial spines to ¾in long and two to five centrals up to 1½in. Free flowering and diurnal in summer, the flowers are white to pink, fragrant, and 6–8in long, 4¾–6in across. Requires good light; normal cactus compost; minimum temperature 50°F. *Southern Brazil*.

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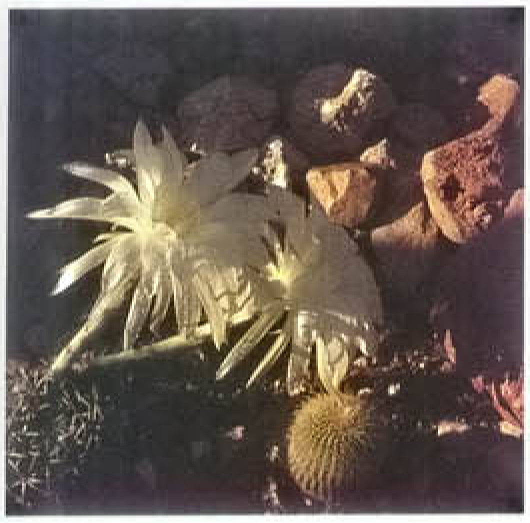
ECHINOPSIS



ECHINOPSIS **OBREPANDA** Salm-Dyck **var. FIEBRIGII** (Gürke) Friedr.
Syn: *Echinopsis fiebrigii* Gürke

Grayish-green plants with globular stems 6–7in in diameter, with 18–24 irregular ribs. The areoles are yellowish gray, about 1in apart, bearing eight to ten pale yellow, becoming grayish radial spines to 1in long, and one curved central to 1⅓in. Day flowering in summer, the blooms are 6¾–7¾in long and pure white, with a slender green scaly and white hairy tube. Needs bright light; normal cactus compost; minimum temperature 50°F. *Bolivia.*

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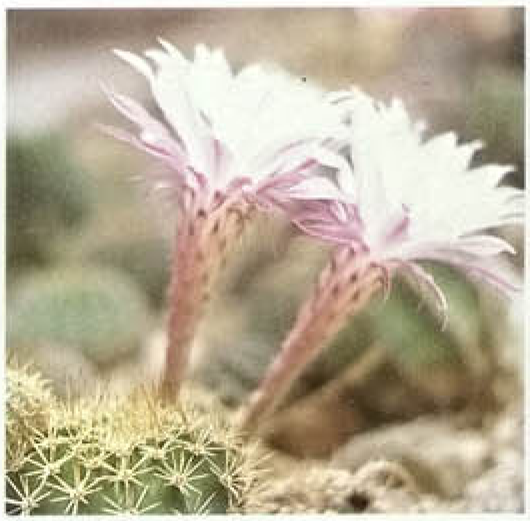

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ECHINOPSIS **OXYGONA** (Link) Zucc.

Globular stems becoming cylindrical to 10in or more high, 8in wide, and offsetting from around the sides. There are 13–15 ribs with large, short woolly areoles set ¾in or more apart. The pale-brownish spines consist of 13–15 radials to ⅔in long and two to seven centrals ¾–1½in in length. Diurnal, and summer flowering, the blooms are about 10in long, to 4¾in across, pale pink internally, and reddish externally. Needs full sun; normal cactus compost; minimum temperature 50°F. *Southern Brazil, Argentina, Uruguay.*

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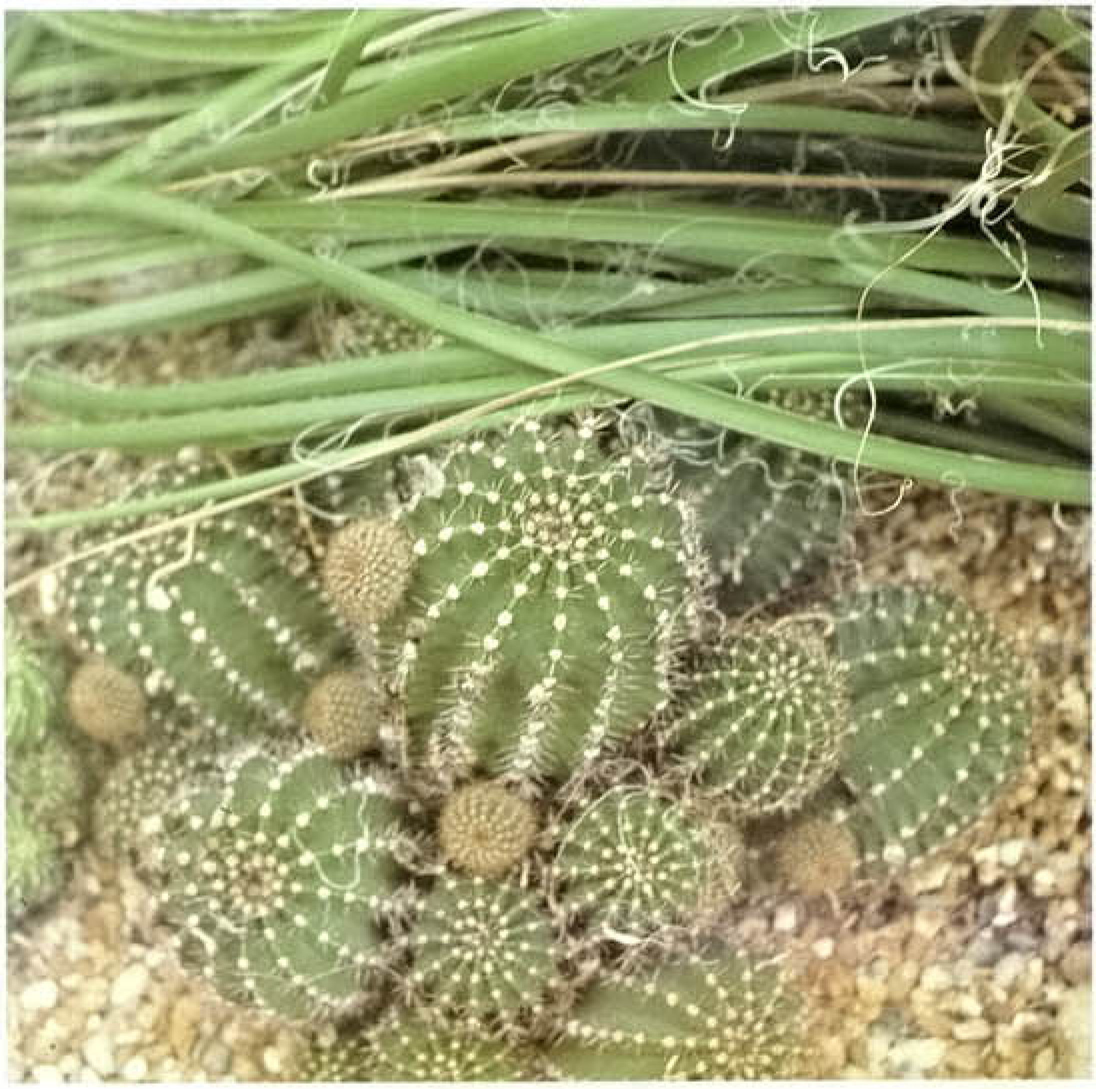
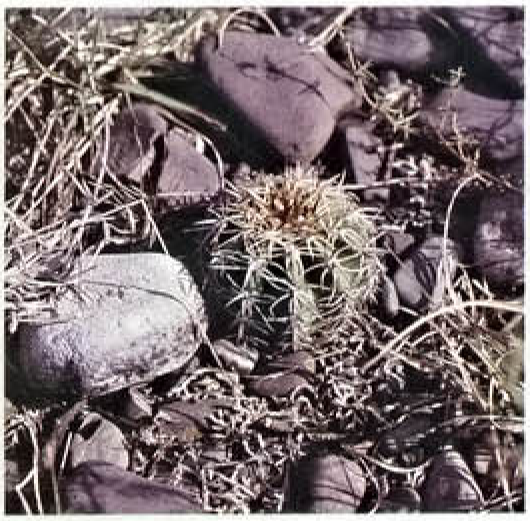


× EPICACTUS



ECHINOPSIS **SILVESTRII** Speg.

A grayish-green globular plant to about 6in in diameter with a depressed crown. It has 20 or more ribs with areoles bearing five to nine radial spines, and one central, initially yellow becoming gray and up to ½in long. The flowers are white, about 8in long to 6in across, and are day flowering in summer. Needs bright light; normal cactus compost; minimum temperature 50°F. *Argentina (Salta).*

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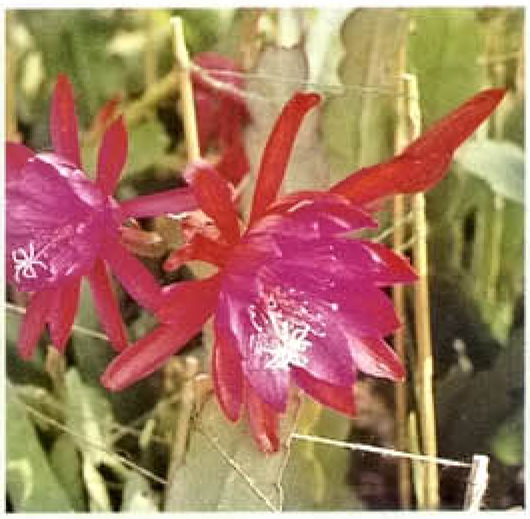

× EPICACTUS **'Absintha'** Passmore

An attractive cultivar produced about 1946 in the UK, the parents being 'Marseillaise' crossed with 'Augusta von Szombathy,' two of the few hybrids available at that time. The stem growth is similar to the majority of epicacti, being elongated and leaf-like. Flowering in spring, it is diurnal. Needs filtered light; normal cactus compost; minimum temperature 50°F.

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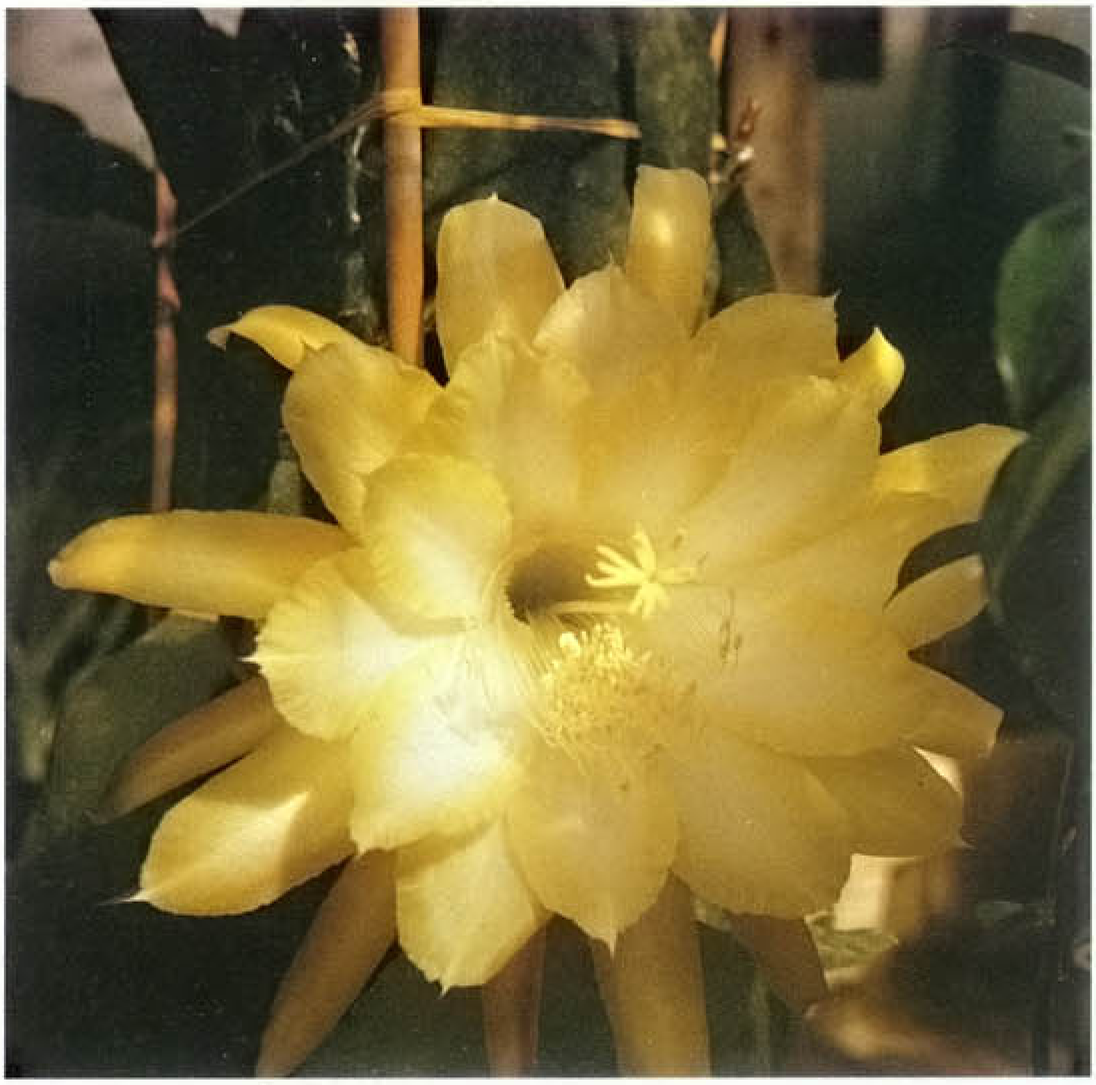

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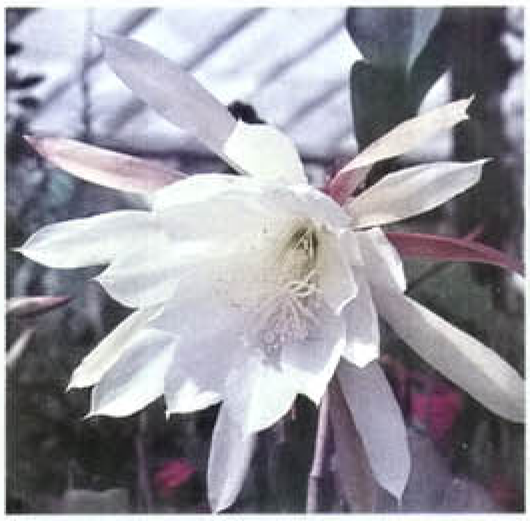
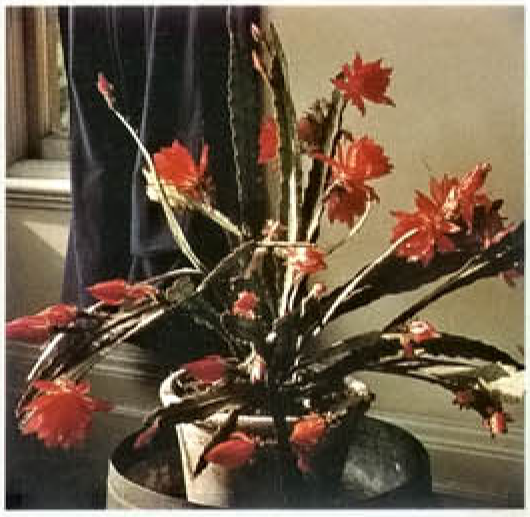
× EPICACTUS **'Achievement'** Innes

One of the earliest yellow-flowering cultivars to be developed in the UK, the product of *Echinopsis aurea* and *Epiphyllum crenatum*. Flowers are about 5½in in diameter with slightly frilled petals, and appear by day in late spring. Requires filtered light; an acid, porous compost; minimum temperature 50°F.



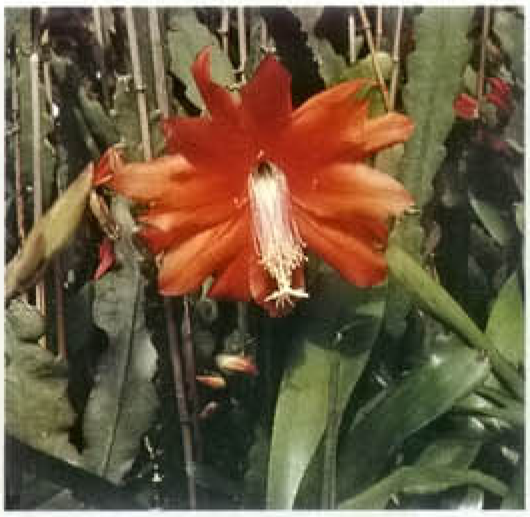
× EPICACTUS **'Alba Superbus'** Beahm

A large-flowering, white cultivar developed in the USA by Sherman Beahm. The large bloom, 4–4¾in in diameter, is pure white, the outer segments pinkish white, and it lasts for three to four days, appearing by day in late spring and early summer. Requires semi-shade with brief periods of brighter light; a permeable acid compost; minimum temperature 50°F.



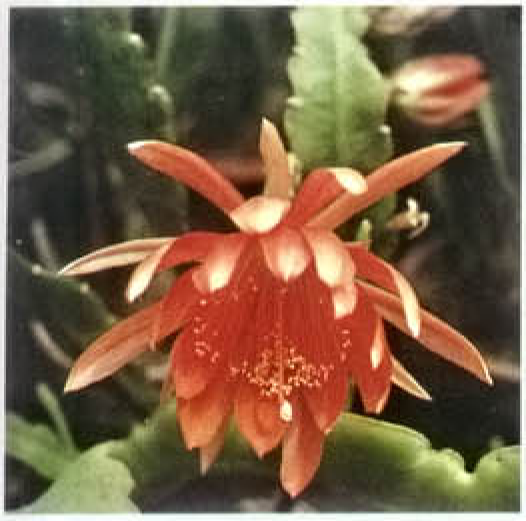
× EPICACTUS **'Ackermannii'** Haworth (?)

The early-day hybrid well known for very many years as a popular houseplant. Its origin remains uncertain but it is seems to be a hybrid of an *Epiphyllum* and *Heliocereus*. A medium- to large-sized flower of dazzling red, about 3¼in long, it remains open for several days. The flowers, borne on either flat or three-angled stems, appear in late spring. Needs slight shade; normal cactus compost; minimum temperature 50°F.



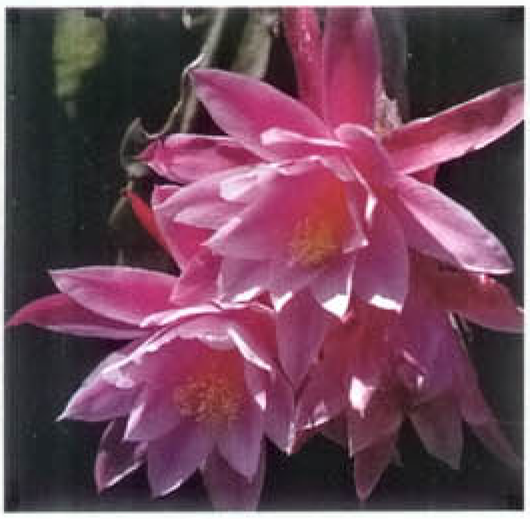
× EPICACTUS **'Ashlea'** Barber

The product of the late J. T. Barber, a British nurseryman specializing in epiphytic cacti. The rich, deep-orange coloring is derived from one of the parents, the cultivar 'Amber Queen.' Flowering in early summer, the flowers, which are diurnal, are 4¾–5½in across, the petals always tending to recurve at the edges. Requires indirect light; normal cactus compost; minimum temperature 50°F.



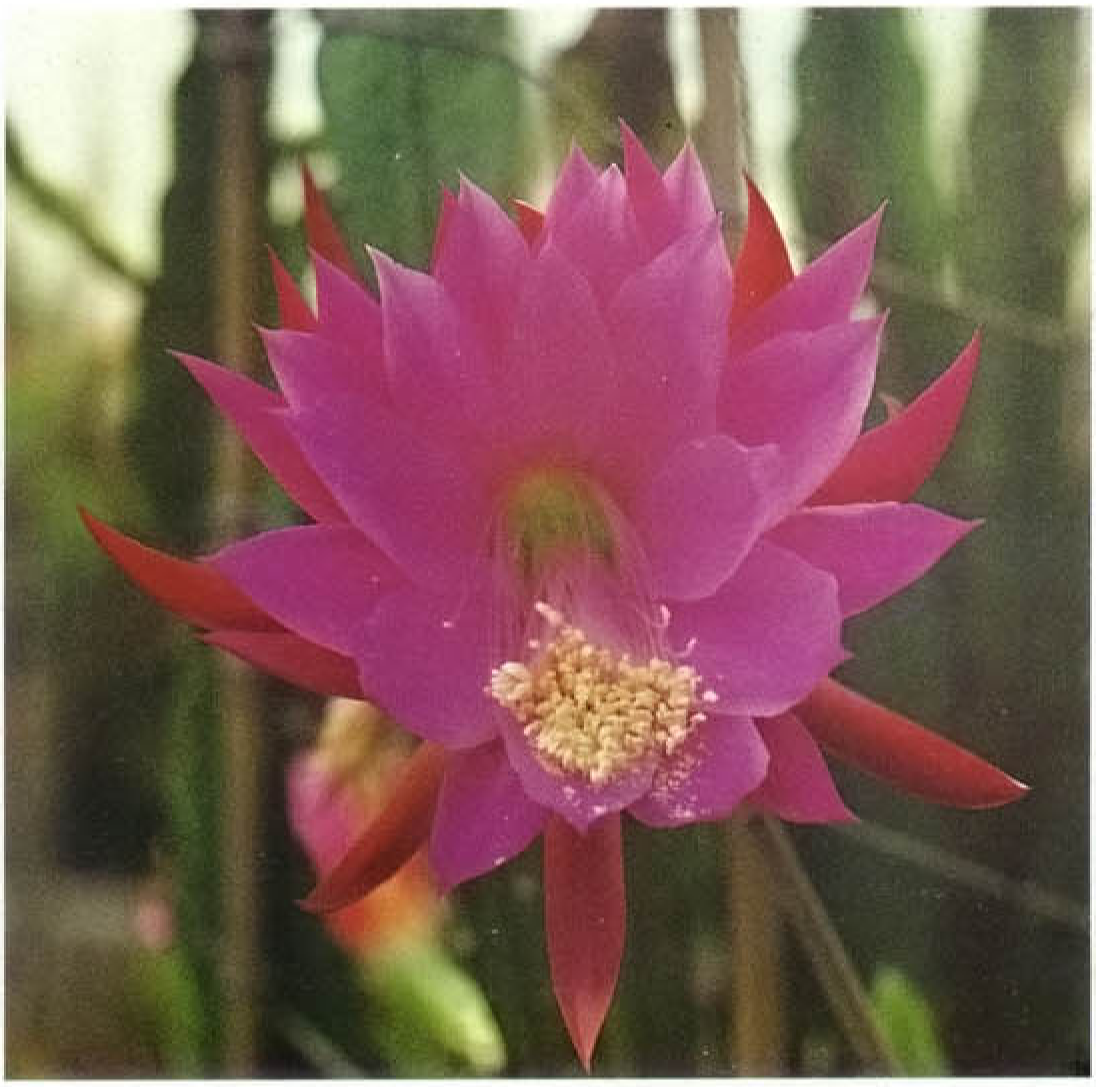
× EPICACTUS **'Astronaut'** Cactus Pete

A product of the eminent rare plant nursery in the USA, a result which was achieved in 1960. The large, bell-shaped flower is rich orange throughout, 4¾–6in in diameter, and lasts for three to four days. It is day flowering in late spring. Needs indirect light but not too shaded; normal cactus compost; minimum temperature 50°F.



× EPICACTUS **'Augusta von Szombathy'** Knebel

One of the outstanding hybridizers of all time, Curt Knebel of Germany developed this outstanding plant in about 1935. The varying shades of color in this funnel-shaped bloom are very much in evidence. A medium-sized flower, 4–4⅓in long, 3½–4⅓in across at the tips, it lasts for four or five days, flowering late in spring in the day time. Needs protection from full sun; normal cactus compost; minimum temperature 50°F.



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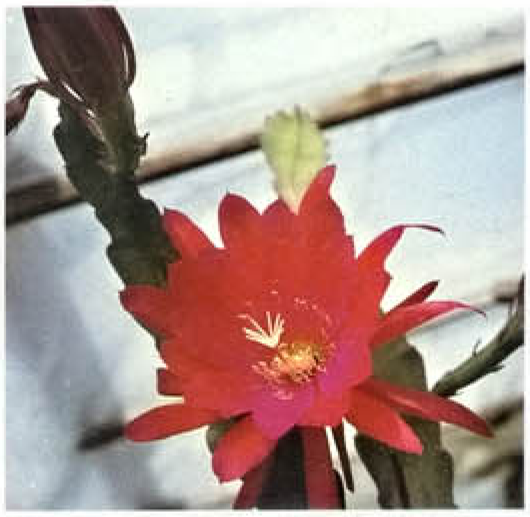
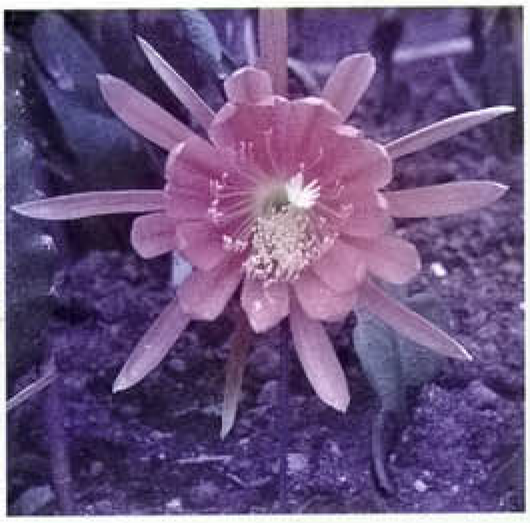
× EPICACTUS **'Ballyshavel'**

This very colorful cultivar originated from the USA, possibly produced by Hummel, but this remains uncertain. A richly colored flower, it appears in late spring, the blend of deep lilac and purple giving a startling effect. The flowers are 4–4¾in in diameter and last up to three days, opening in mid-morning, and partially closing near dusk. Needs a slightly shaded position; normal cactus compost; minimum temperature 50°F.



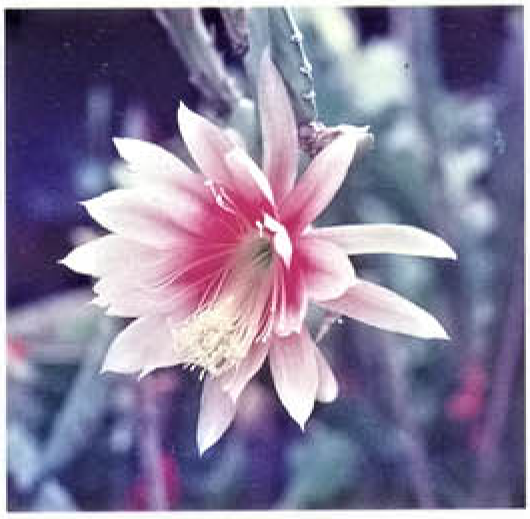
× EPICACTUS **'Bambi'** Monmonier

A product of Ventura Gardens, USA. The trumpet-shaped flowers vary from quite small to medium sized and are up to 4¾in long. Coloring is in shades of fuchsia and carmine, and it is very free flowering in late spring. Requires indirect light; normal cactus compost; minimum temperature 50°F.



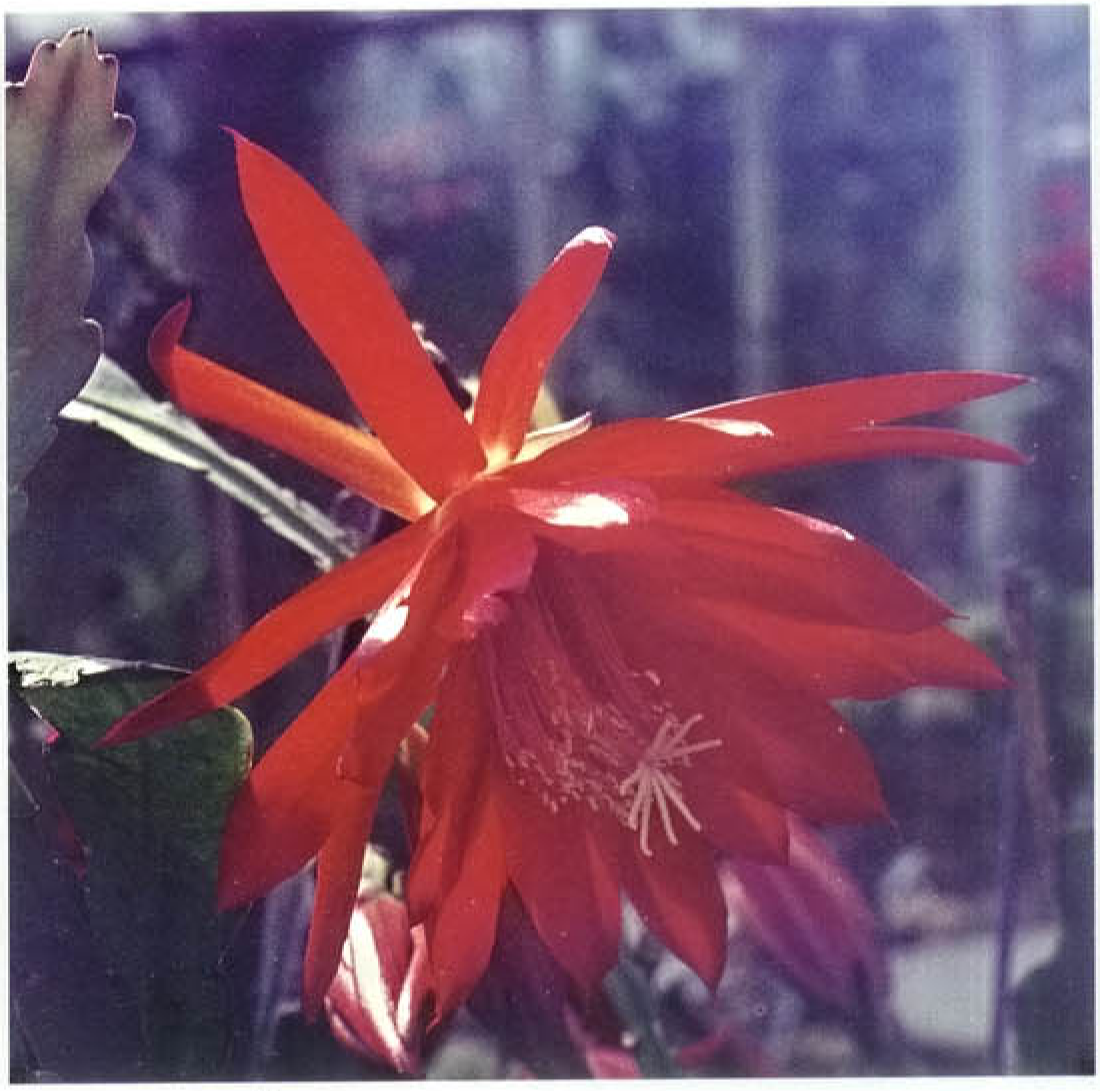
×EPICACTUS 'Calypso' Innes

A low-growing plant with large lilac-pinkish flowers about 4¾in across. This was developed in the UK at the Holly Gate Nurseries in 1965 and was the result of crossing the cultivars 'Padre' and 'Flirtation,' the latter being the "mother" plant. It is day flowering in late spring, the flowers lasting for three to four days. Requires a slightly shaded position; normal cactus compost; minimum temperature 50°F.



×EPICACTUS 'Carnation' C. Steele

A most intriguing cultivar from the USA. The broad, overlapping pinkish petals are enhanced by the rich rose throat. The flower, 4¾–5½in across, opens early in the day during late spring and is long-lasting. Requires filtered light; normal cactus compost; minimum temperature 50°F.



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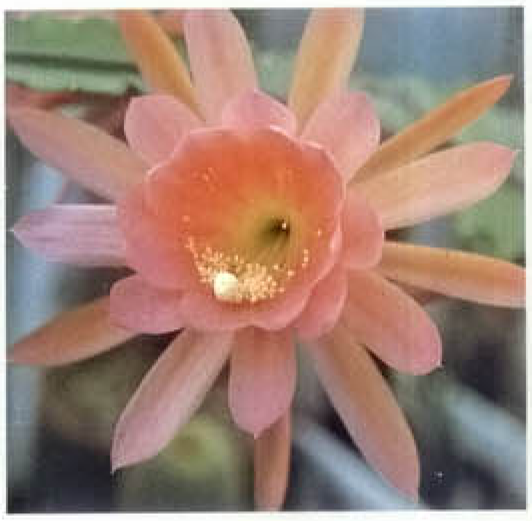
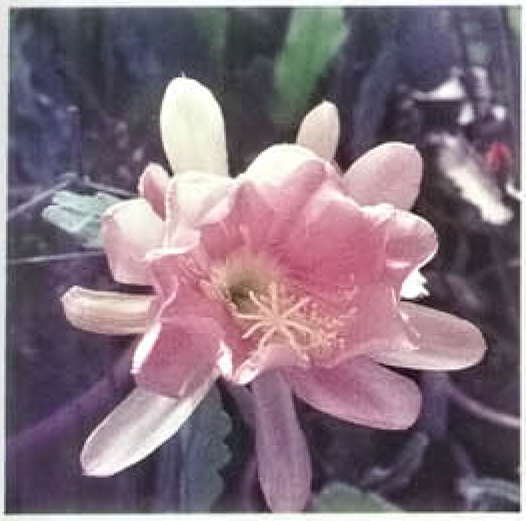
×EPICACTUS 'Carolyn Haupt' Daly

A choice variety with cherry-red flowers developed by Leo M. Daly of the USA. The more or less ruffled structure of the flower is particularly significant, coupled with its very large size. Flowering from mid-spring to early summer, it is diurnal. Requires indirect light: with shade too dense it loses its coloring; normal cactus compost; minimum temperature 50°F.



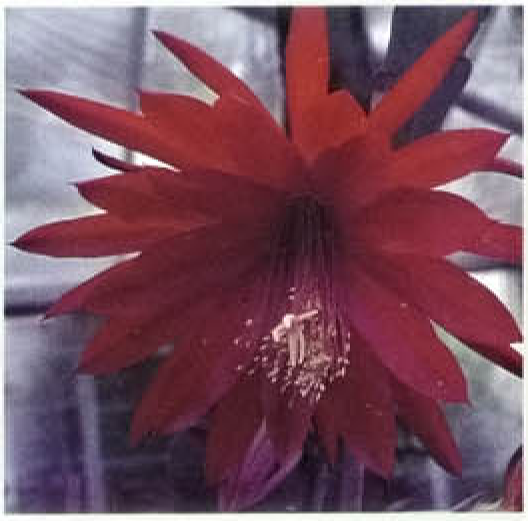
×EPICACTUS 'Celeste' Coolidge

An excellent cultivar produced in 1950. The outstanding feature is the cup and saucer-shaped flower with the distinctive three to four rows of lilac-pink petals. The flowers, about 5½in in diameter, appear during late spring and remain open for three or four days or more. Requires a bright position out of direct sun; normal cactus compost; minimum temperature 50°F.



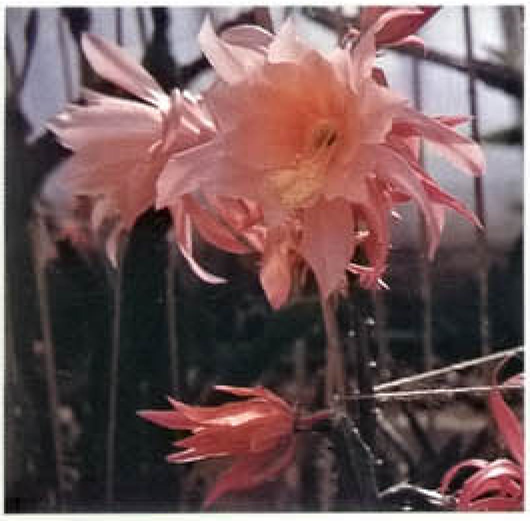
× EPICACTUS **'Celestine'** C. Steele

A cultivar which appeared in 1939 and has maintained its popularity ever since, both in the USA where it was produced and equally so in Europe. The almost "ruffled," funnel-shaped flower of pale purplish pink is about 4¾in across and is diurnal, at its best in late spring. Needs protection from full sun; normal cactus compost; minimum temperature 50°F.



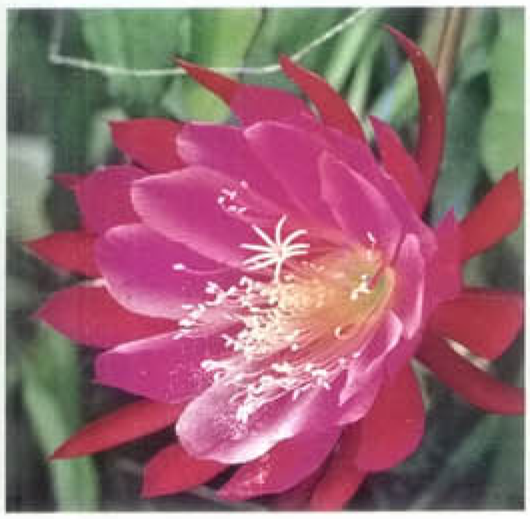
× EPICACTUS **'Cleona'** Beahm

A striking cultivar developed in 1945 and offered by the Beahm Gardens, it is a hybrid of the cultivars 'Montezuma' and 'Sun Goddess.' The large, dark orange-red petals are widely spreading and enhanced by the violet throat. It flowers by day in early summer. Requires only slight shade; normal cactus compost; minimum temperature 50°F.



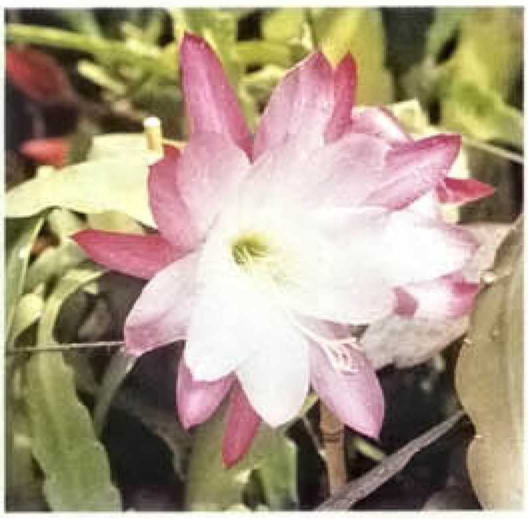
× EPICACTUS **'Crinoline Lady'** Innes

An erect cultivar produced about 1958 in the UK. The stems are either flat or three-angled and the flowers are produced in spring; their somewhat ruffled petals are pale orange-pink throughout and last up to five days. Requires filtered light; normal cactus compost; minimum temperature 50°F.



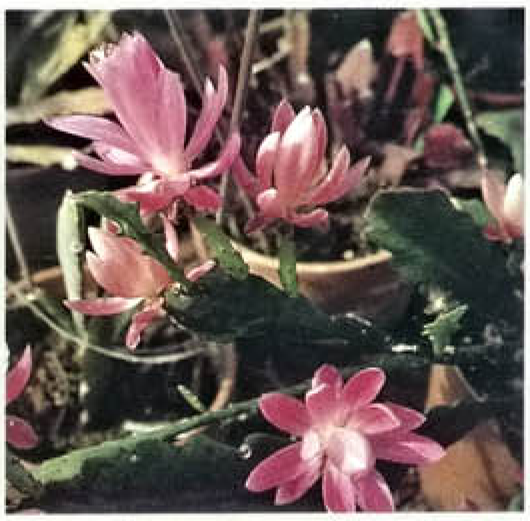
× EPICACTUS **'Chauncey'** Stoddard

A most impressive cultivar developed in the USA in 1940. It is a tall plant with stems to over 2ft long with large flowers about 6in across. The broad inner petals are purple with a reddish median line and suffused with white along the margins; the outer segments are dark reddish. The plant is day flowering in late spring. Requires slight shade; normal cactus compost; minimum temperature 50°F.



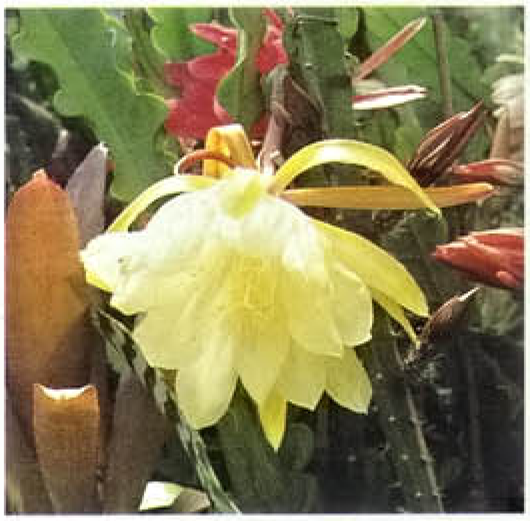
× EPICACTUS **'Communion'** Fort & O'Barr

An outstanding and impressive cultivar from the USA produced by Country Garden Nursery in 1950, the result of cross-pollinating the epicacti 'Harmony' and 'Garden.' The flowers are 3½–4in across, with white inner petals suffused with pale pink and lilac-pink outer ones. It is day flowering in early to mid-spring. Requires filtered light; normal cactus compost; minimum temperature 50°F.



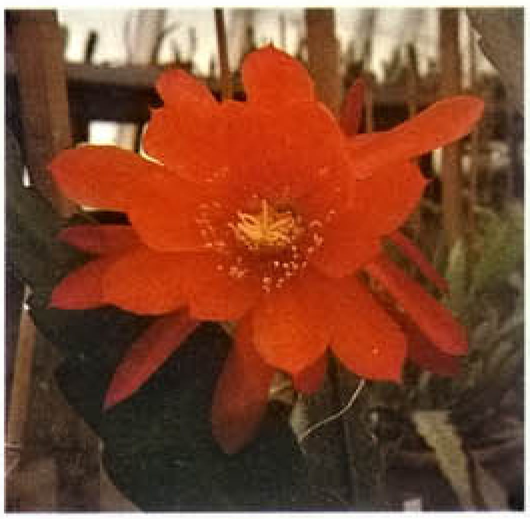
× EPICACTUS **'Deutsche Kaiserin'**

This popular cultivar appears to be an improved form of *Nopalxochia phyllanthoides* and would seem to be of German origin. The bright pink flowers are larger than those of the species and are produced in greater abundance during late spring until mid-summer; they are diurnal. An ideal plant for hanging baskets. Requires protection from direct sun; normal cactus compost; minimum temperature 55°F.



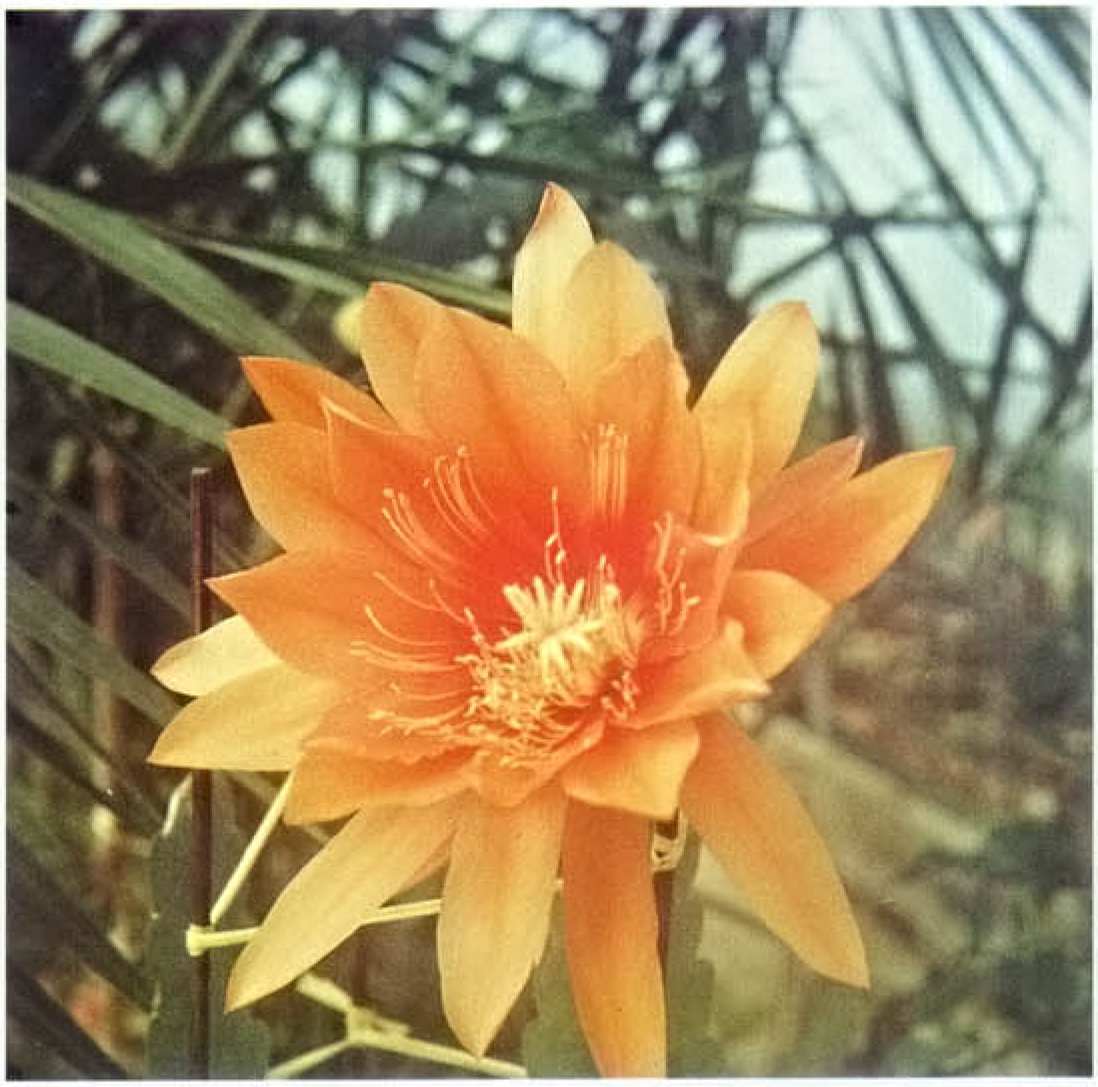
×EPICACTUS **'Dobson's Yellow'** Dobson

An early-day yellowish hybrid developed by the late Mr Dobson of Scarborough, UK. A very free-flowering plant from early to late spring, the rich creamy-yellow flowers are highly scented, and about 6⅓in in diameter when fully open. Needs partial shade, which is essential; normal cactus compost; minimum temperature best at 55°F.



×EPICACTUS **'Don Juan'** Cactus Pete

A cultivar introduced in 1946 having been developed in the USA. Flowers are 4–4¾in across, with evenly colored burnt-orange petals with a slightly shaded reddish-pink throat. They are diurnal, appearing in late spring. Needs slight shade; normal cactus compost; minimum temperature 50°F.



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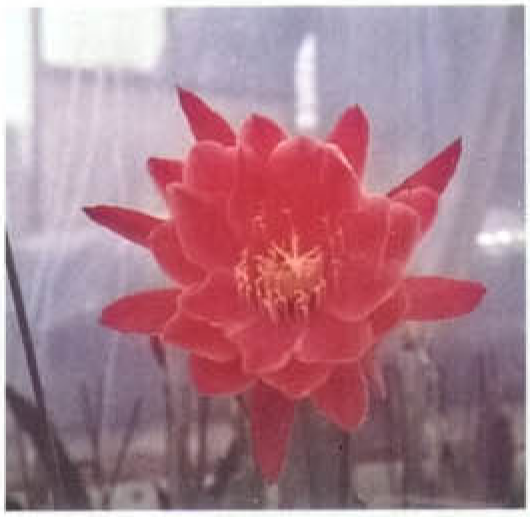
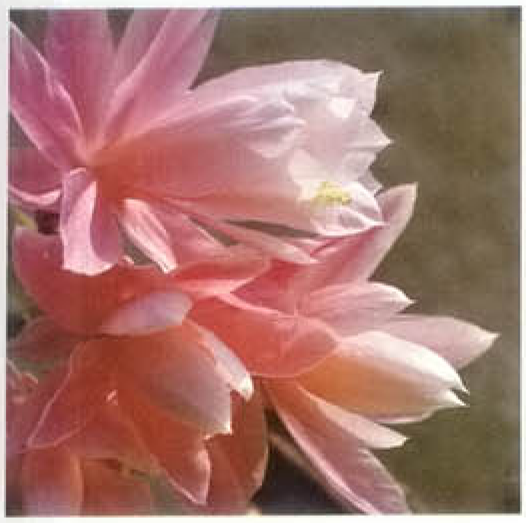
×EPICACTUS **'Dreamland'** Beahm

An outstanding cultivar produced in 1953, the parents being the epicacti 'Sherman E. Beahm' and 'Pride of Bell.' The spring flowers, which last for three or four days, are about 4¾in across with pinkish-orange petals, and a deeper, almost reddish median line and a rose-red "eye." Needs filtered light; normal cactus compost; minimum temperature 50°F.



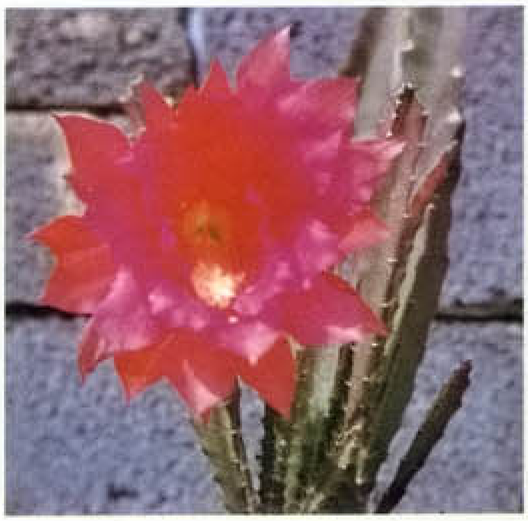
×EPICACTUS **'Dr Werdemann'** Knebel

One of several hybrids produced by Curt Knebel of Germany, which has maintained its popularity since the early 1930s. The carmine-pink petals have a paler edge and very pale orange veining. The flowers, which appear by day in spring, are 6⅓–8in across. Requires slight shade; normal cactus compost; minimum temperature 50°F.



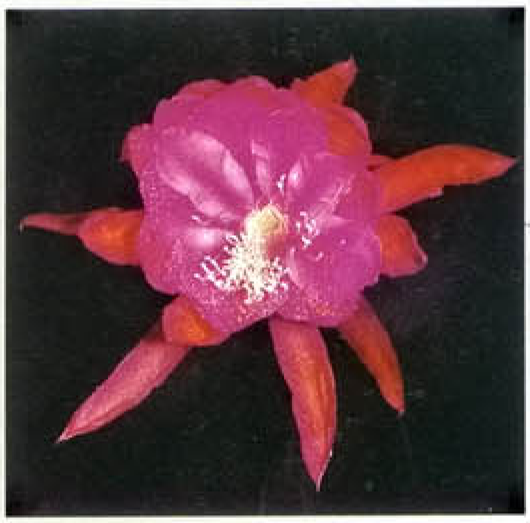
×EPICACTUS 'Giant Empress'

Another improved form of *Nopalxochia phyllanthoides* reputed to have been developed by Curt Knebel, the German authority. Very similar to 'Deutsche Kaiserin' but with flowers half as big again and a slightly deeper color; the individual flowers are often 3¼–4in long. They are day flowering, in spring. Requires slight shade; normal cactus compost; minimum temperature 55°F.



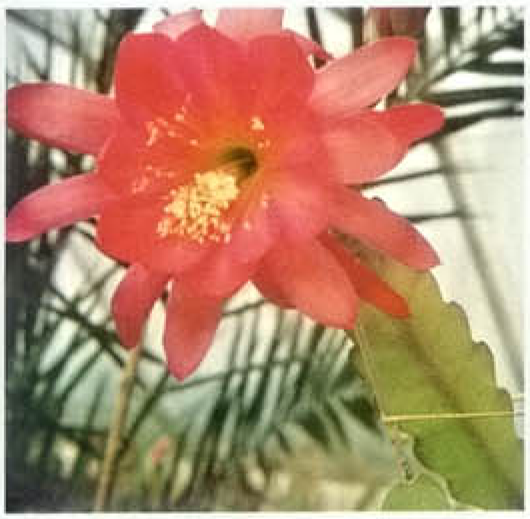
×EPICACTUS 'Helena' Innes

A sturdy, erect plant with three-angled stems to 1½ft high; the flowers appear by day in late spring. Blooms are reddish to violet and about 4¾in wide, and the somewhat frilled petals are a special feature. Needs fairly bright light; normal cactus compost; minimum temperature 55°F.



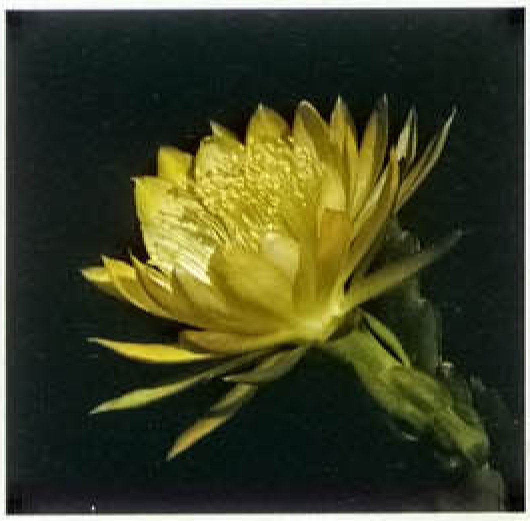
×EPICACTUS 'Holly Gate' Innes

A cultivar produced in the UK in 1969 and perhaps better named x *Heliochia*, an intergeneric title proposed by Rowley. The parents are *Epicactus (Heliochia) ackermannii* and *Heliocereus speciosus* var. *serratus*. Day flowering in late spring, the blooms are 6⅓–7in across with bright purple inner petals with a reddish median line, purple and red outer petals, and reddish-orange, outspread sepals. Needs only partial shade; normal cactus compost; minimum temperature 55°F.



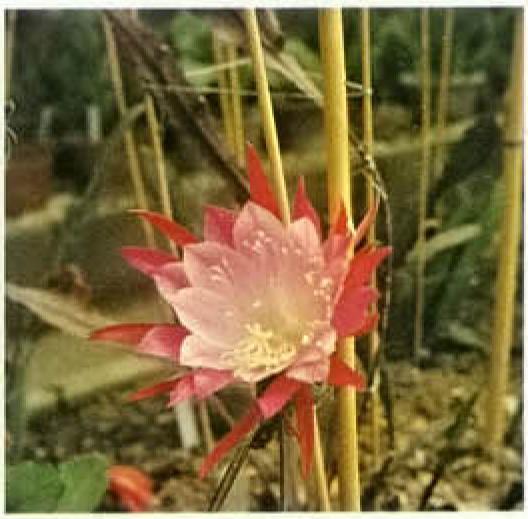
×EPICACTUS 'Hecla' Passmore

One of the earlier cultivars produced by an English enthusiast. The day-flowering plant is tall, growing to nearly 2½ft high, producing the brownish-red flowers in late spring; each bloom is about 5½in across. Needs fairly good light, but not full sun; normal cactus compost; minimum temperature 45°F.



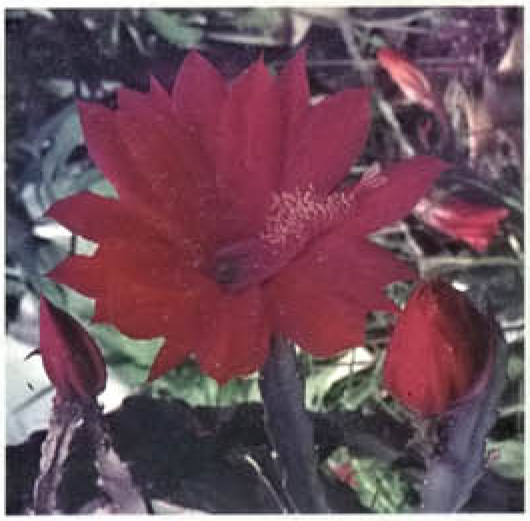
×EPICACTUS 'Helianthus' C. Steele

An excellent cultivar introduced in 1951 by a US nurseryman at a period when efforts were being made in America and Europe to produce a really good yellow variety. The cup-shaped flower is predominantly yellow with a whitish throat, the petals being somewhat feathery. Flowers are 3½–4¼in in diameter, appearing by day in spring. Requires very bright light, but not direct sun; normal cactus compost; minimum temperature 55°F.



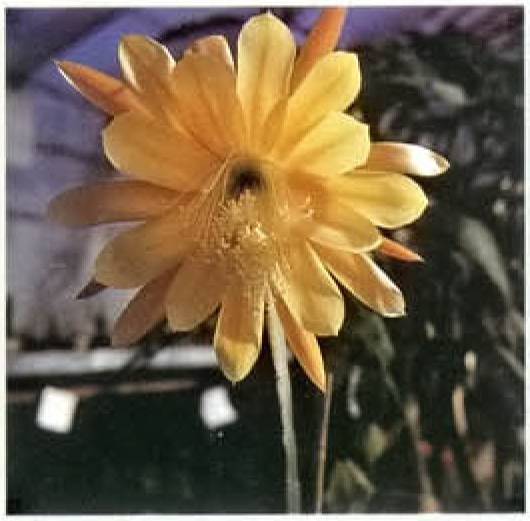
×EPICACTUS 'Impello' Innes

A delicately shaded cultivar produced in 1964 in the UK. Fairly low growing, the stems are about 1ft 3in long with early spring, day flowering blooms of varying shades of pale lilac to mauve and rose red. The flowers are about 5½in across. Requires filtered light; normal cactus compost; minimum temperature 50°F.



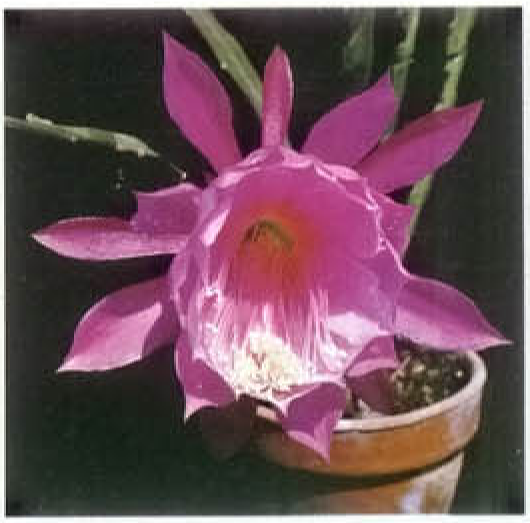
× EPICACTUS **'Jenkinsonii'** Walton

One of the earliest cultivars on record, developed by F. A. Walton in 1845 in Britain. The actual origin is uncertain, but it is believed to be with *Heliocereus* parentage cross-pollinated with the hybrid *Epiphyllum ackermannii*, this being apparent in the angled, spiny stems. Flowers appear by day in spring and early summer, and are up to 6in in diameter, of a brilliant dark orange or purplish red with deeper shading in the throat. Requires bright light but not full sun; normal cactus compost; minimum temperature 50°F.



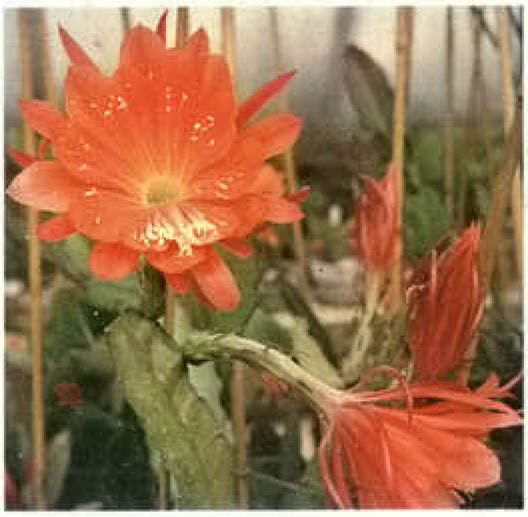
× EPICACTUS **'King Midas'** Cactus Pete

One of the most sensational cultivars made available in 1939, and considered one of the finest yellow-flowering epicacti produced to date. Plants are tall, the angled or flattened stems up to 3ft or more long with the very large terminal flower 6–8in across when fully open. The bright yellow petals have a deep golden-yellow midstripe; the sepals are yellowish orange. The flowers are diurnal, in spring. Only slight shade is required; normal cactus compost; minimum temperature 55°F.



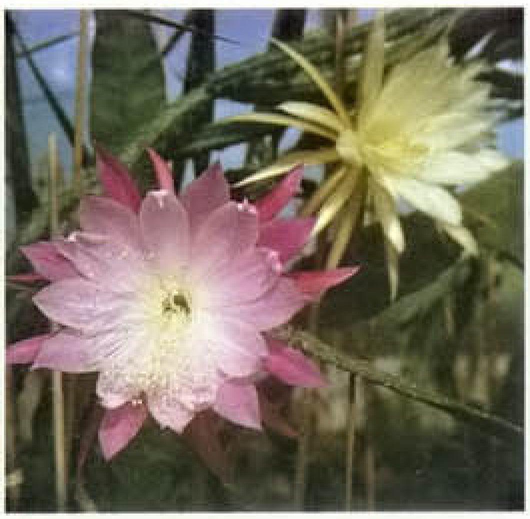
× EPICACTUS **'Little Sister'** Fort & O'Barr

Produced in the USA in 1950, this colorful cup-and-saucer flower is about 6in in diameter when fully open. The "cup" is light violet with darker veining and sepals of a slightly deeper purple. Flowering in early spring in partial shade, it is diurnal. Requires a rich cactus compost; minimum temperature 50°F.



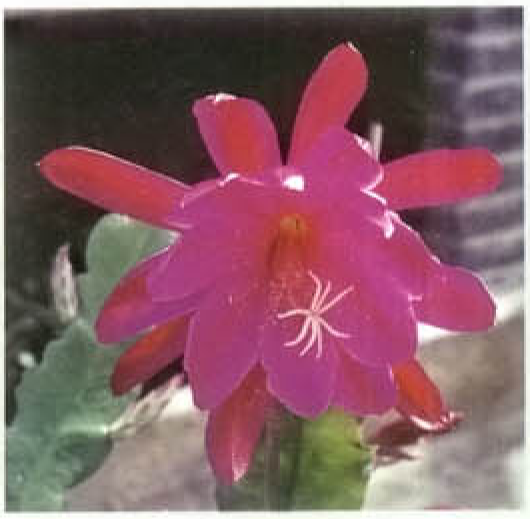
× EPICACTUS **'Jersey Beauty'** Fort & O'Barr

A one-toned bright, glistening orange cultivar introduced in the USA in 1950, resulting from a cross-pollinating of the two cultivars 'Dr. A. D. Houghton' and 'Garden.' Flowers, 5½in or more across, appear in spring and last for three to four days. Requires filtered light; normal cactus compost; minimum temperature 55°F.



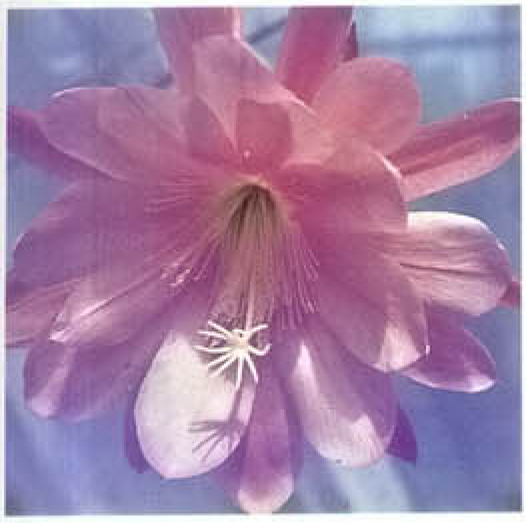
× EPICACTUS **'Kismet'** Innes

One of the early Innes hybrids of about 1947. The flower is widely cup-shaped, about 6in in diameter, in shades of palest purple in the throat and deepening to deeper red outer segments. It is diurnal, spring and early summer flowering. Requires slight shade; normal cactus compost; minimum temperature 50°F.



× EPICACTUS **'Marseillaise'** Knebel & C. Steele

An extraordinary richly colored cultivar introduced in 1938 of German/American origin. The flowers appear in late spring and are diurnal, 6in or more in diameter. The deep reddish-purple inner petals have paler, sometimes almost whitish, edges and a darker reddish center stripe; outer petals are bright red. Requires a semi-shaded position; normal cactus compost; minimum temperature 50°F.

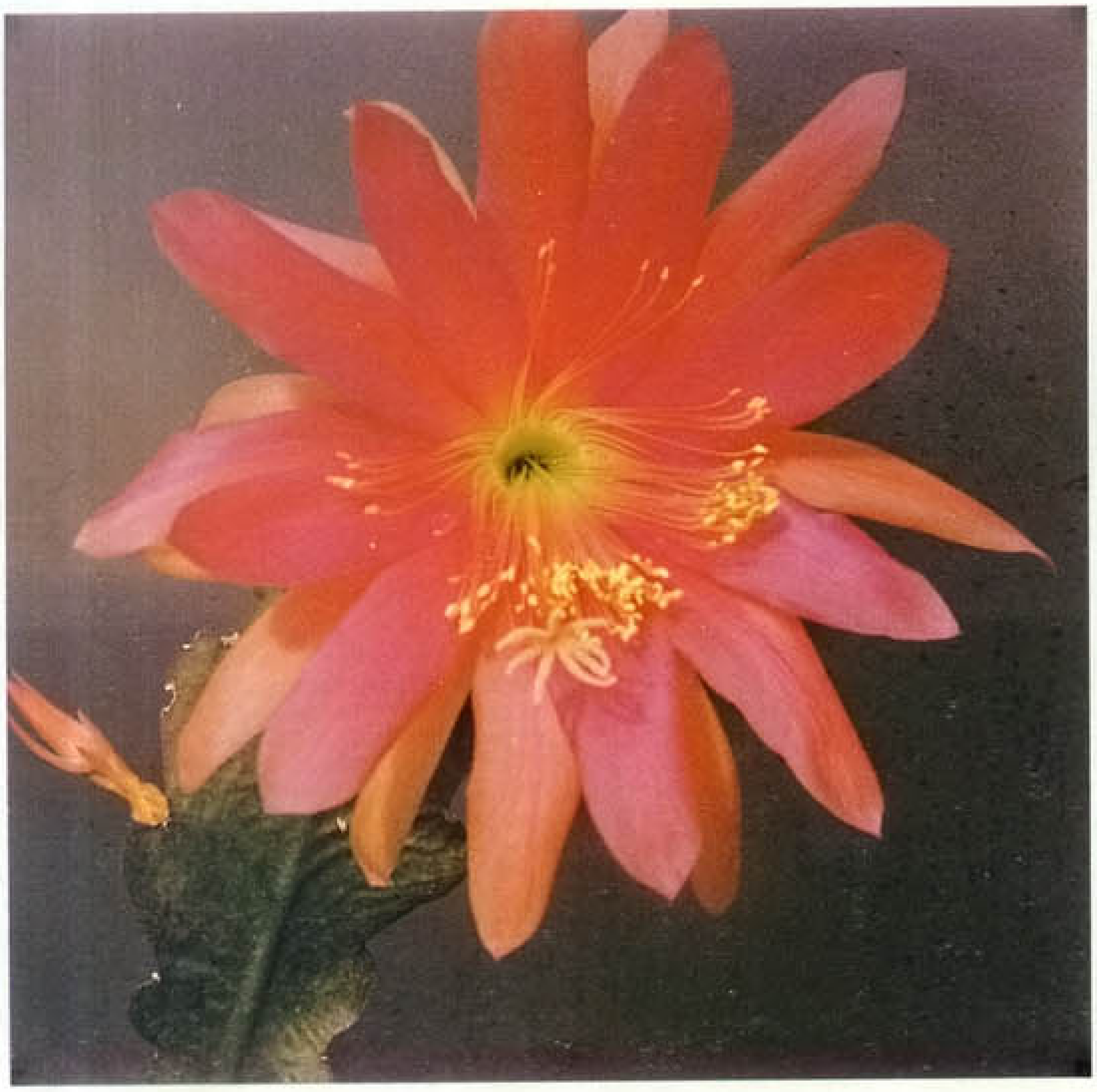


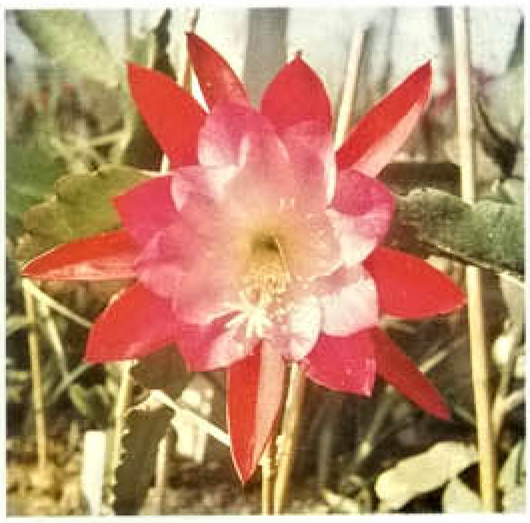
×EPICACTUS **'Mdme. G. M. Peach'** Barber

This is recorded as having been produced in about 1957 by the British nurseryman, the late J. T. Barber. The large lilac-pink flower measures almost 1ft in diameter, and blooms freely during the weeks of early spring to early summer. Requires a slightly shaded position; normal cactus compost; minimum temperature 50°F.

×EPICACTUS **'Mexicanus'** Cactus Pete

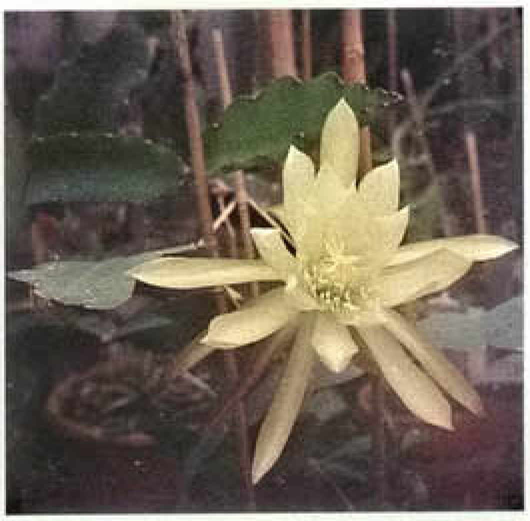
A very showy cultivar from the USA. The large flower, 6–6¾in in diameter when fully open, blooms during spring and individual flowers last for several days. Shades of pink and rose are very evident. Requires a bright position away from direct sun; normal cactus compost; minimum temperature 50°F.





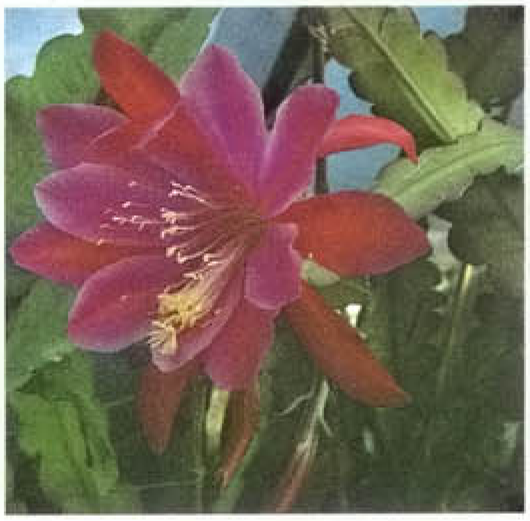
×EPICACTUS **'Moonlight Sonata'** Fort & O'Barr

A rather choice cultivar introduced from the USA in 1950, the product of crossing the cultivars 'Eleonora Prochaska' and 'Garden.' The flowers, described as beautiful, lacquered blooms in a base of white, shading to orchid petals and dark violet sepals, appear in early to mid-spring, and are diurnal. Requires filtered light; normal cactus compost; minimum temperature 50°F.



×EPICACTUS **'Oriole'**

A large-flowered cultivar of unknown origin, but probably developed by European hybridizers in about 1950. The whitish-cream inner petals and the creamy-yellow outer segments form a cup-and-saucer-shaped flower about 5½in in diameter. A day flowering plant, it is usually at its best in late spring. Requires semi-shade; normal cactus compost; minimum temperature 50°F.

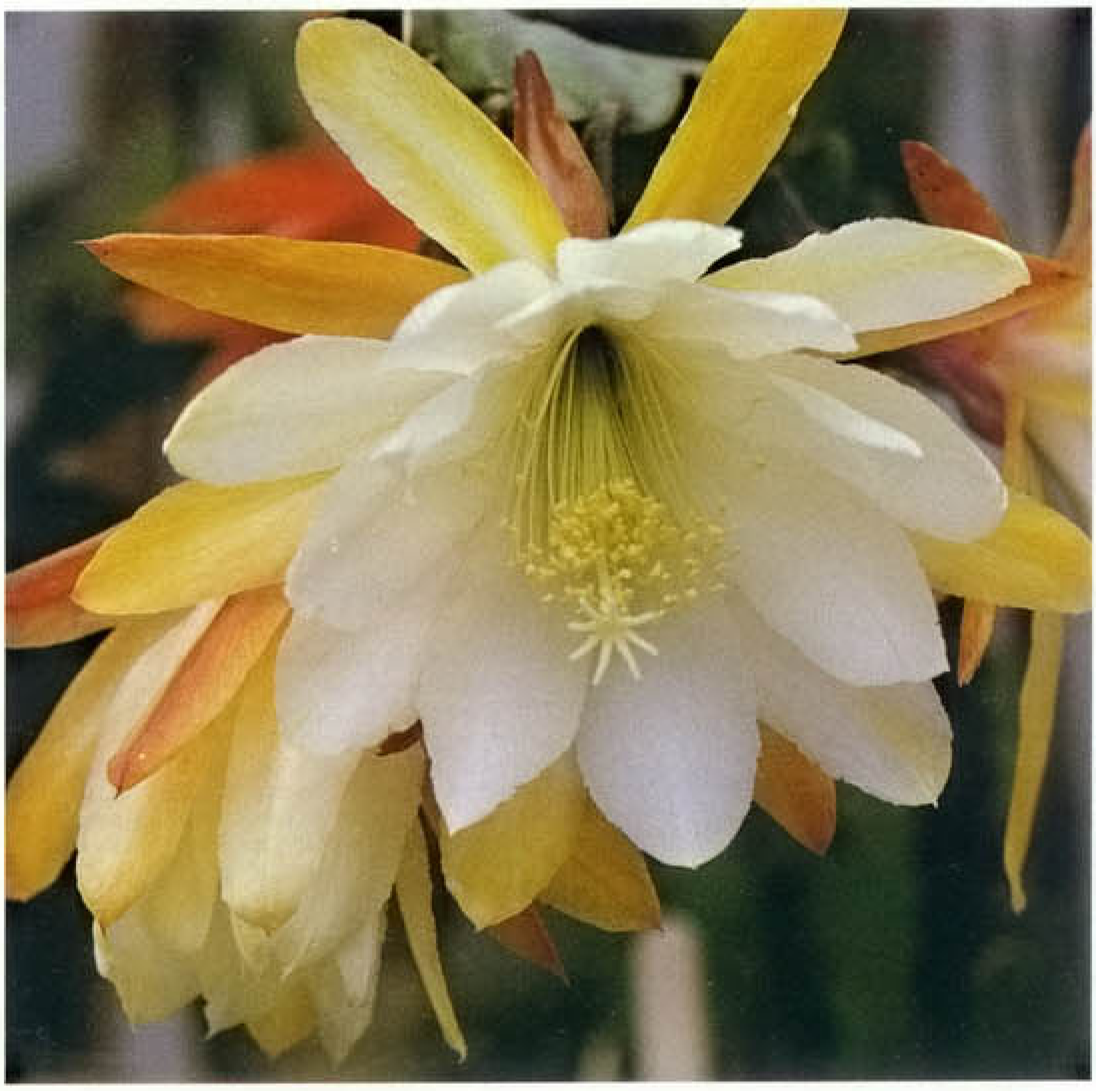


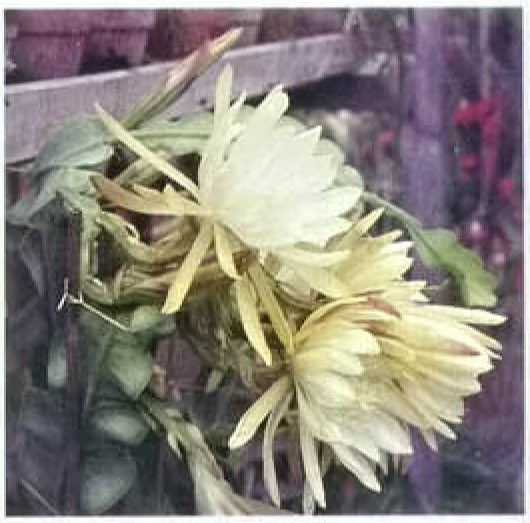
×EPICACTUS **'Pegasus'** Coolidge

An attractive cultivar from the USA, a product of the Coolidge Rare Plant Nursery. The reddish-orange petals and sepals have brownish-violet edges, and when fully open the bloom is about 8in across. Late spring flowering, it is diurnal. Requires only slight shade; normal cactus compost; minimum temperature 50°F.

×EPICACTUS **'Phosper'** C. Steele

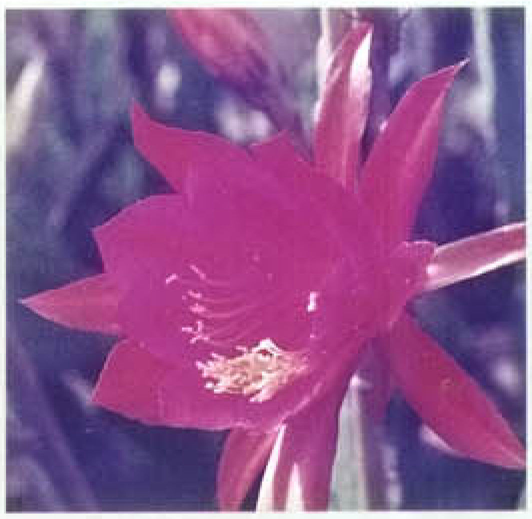
A lovely, open white-flowering plant developed in the USA in 1939. The broad, pure-white inner petals surrounded by the golden-yellow sepals make a splendid daytime flower for late spring display: each bloom is at least 6in in diameter. Needs a bright position away from full sun; normal cactus compost; minimum temperature 55°F.





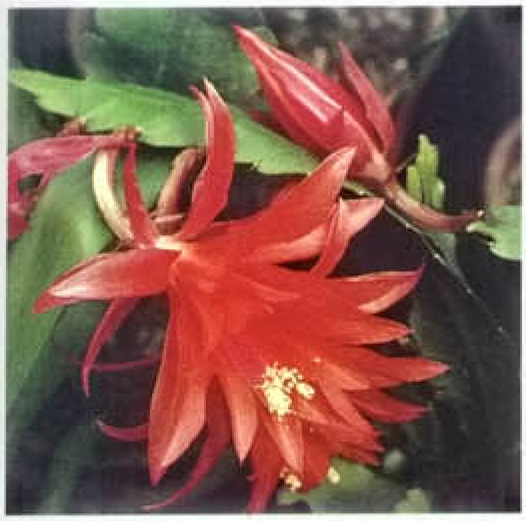
×EPICACTUS **'Polar Bear'** C. Steele

An American hybrid from Clarion Steele. It produces a large, almost star-like flower of pure white with a pale greenish "eye" and yellowish sepals. Flowering by day in late spring, the blooms are up to about 8in wide and are slightly scented. Needs filtered light; normal cactus compost; minimum temperature 50°F.



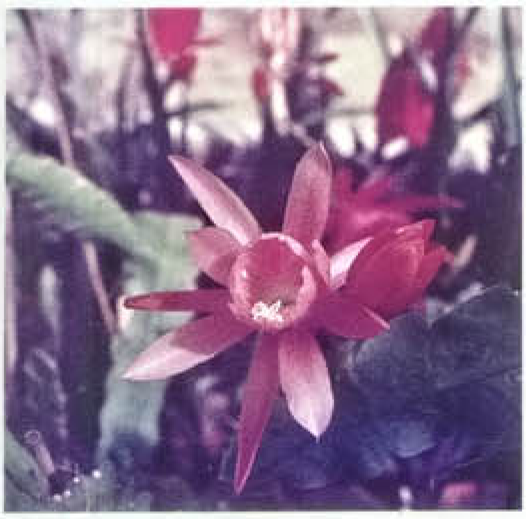
×EPICACTUS **'Prince Charming'** Monmonier

A richly colored bloom of deep blood red with bright-purple suffusions, about 8in in diameter. Produced in the USA in 1943, its popularity still persists. Appearing by day, mid-spring to early summer is the flowering period. Requires partial shade; normal cactus compost; minimum temperature 55°F.



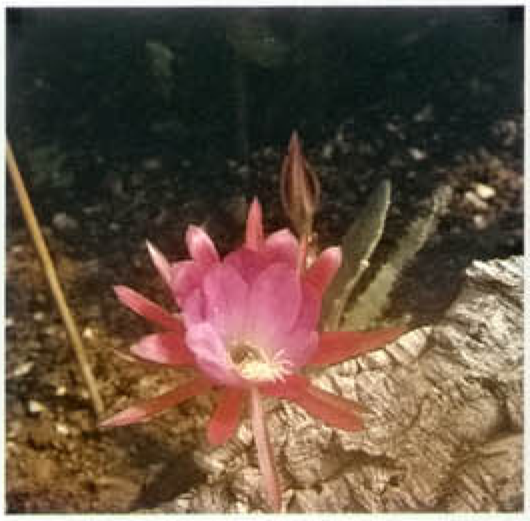
x EPICACTUS **'Prince Regent'** Innes

A cultivar raised in 1950 between the epicacti 'Deutsche Kaiserin' and 'Amber Queen.' It is a day flowering plant well suited for hanging baskets which blooms in profusion from mid-spring to the early days of summer. Requires bright light, but not full sun; normal cactus compost; minimum temperature 50°F.



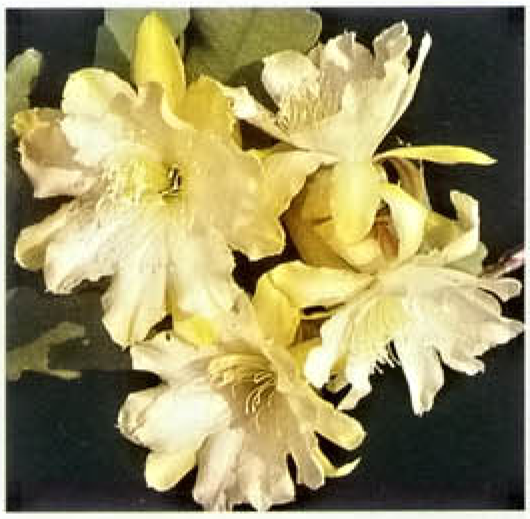
x EPICACTUS **'Princess Grace'** Innes

Introduced in 1956 commemorating the marriage of Princess Grace in the April of that year and exhibited at the Chelsea Flower Show, London, in May. Delicate, pale pink petals form an attractive flower about 4¾in across; often a slight tinge of orange can be observed on the sepals which are pale purplish externally. Day flowering in spring, it needs partial shade; normal cactus compost; minimum temperature 50°F.



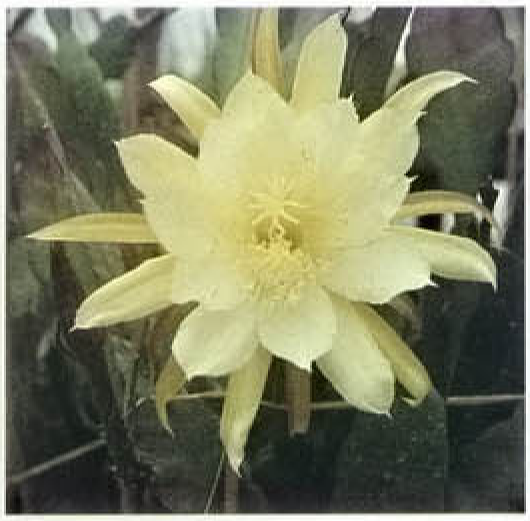
x EPICACTUS **'Purple Dwarf'** Innes

A fairly dwarf cultivar which rarely exceeds 1ft tall but produces flowers about 4in across. It was derived from a hybrid of *Discocactus nelsonii* cross-pollinated with *Heliocereus schrankii*. Suitable for hanging baskets, the flowers continue in succession over a period of several weeks in spring. Requires humidity, especially in early spring; filtered light; normal cactus compost; minimum temperature 55°F.



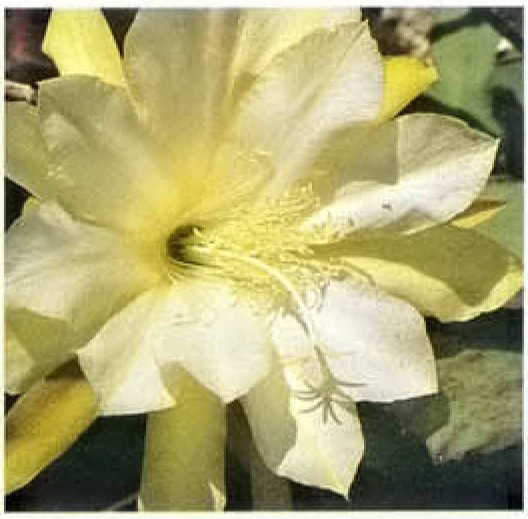
x EPICACTUS **'Queen Anne'** Ed. Stephans

Several efforts were made both in the USA and the UK between 1950–1952 to produce a fine yellow-flowering epicactus and by coincidence hybridizers from both countries decided on the same title for their result. Flowering by day in spring, this is an ideal plant for hanging-basket culture, requiring filtered light; normal cactus compost; minimum temperature 55°F.



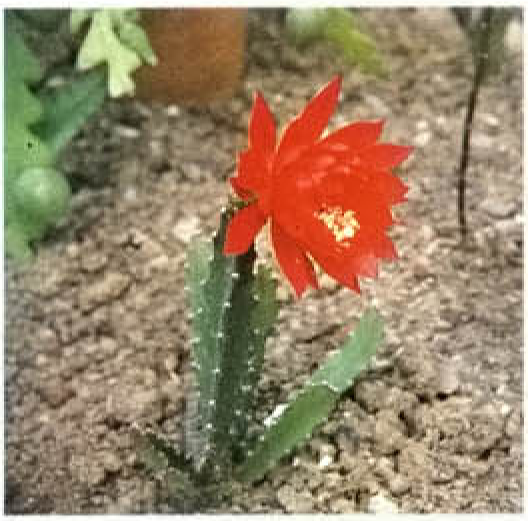
x EPICACTUS **'Regency'** Innes

A large-flowered cultivar produced in the UK in 1949 which owes its origin to crossing *Epiphyllum crenatum* and *Hylocereus undatus*. The creamy-white blooms are diurnal and last two to three days in late spring; each bloom is 5⅛–6⅓in in diameter. Requires bright light but not full sun; normal cactus compost; minimum temperature 55°F.



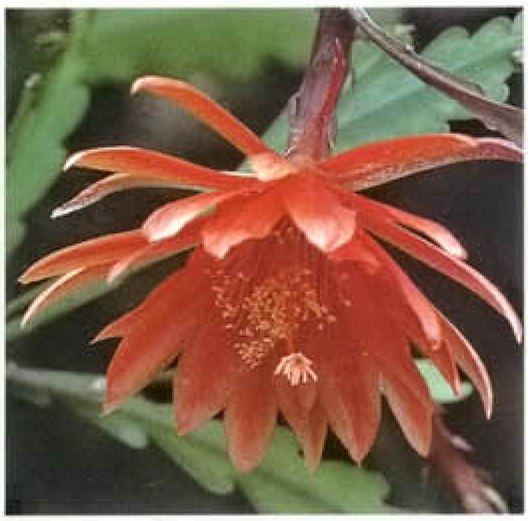
x EPICACTUS **'Reward'** Fort & O'Barr

Recorded as a cross between epicacti 'Thorinne' and 'Madonna,' this is a splendid yellow-flowering cultivar acclaimed "the best" when distributed in 1952. These two American enthusiasts provided many beautiful cultivars, and this is certainly outstanding. Flowering by day in spring, the blooms are a soft yellow with widely opening petals, each with a deeper yellow center line, and 6–7in overall in diameter. Requires bright filtered light; normal cactus compost; minimum temperature 55°F.



× EPICACTUS **'Scarlet Emblem'** Innes

A miniature plant developed in the UK about 1950, it remains up to 1½ft tall with flat or three-angled stems. The flowers are rich scarlet with three to four rows of petals and are about 3¼in in diameter when fully open. Flowering in early summer, they are diurnal. Requires only partial shade; normal cactus compost; minimum temperature 50°F.

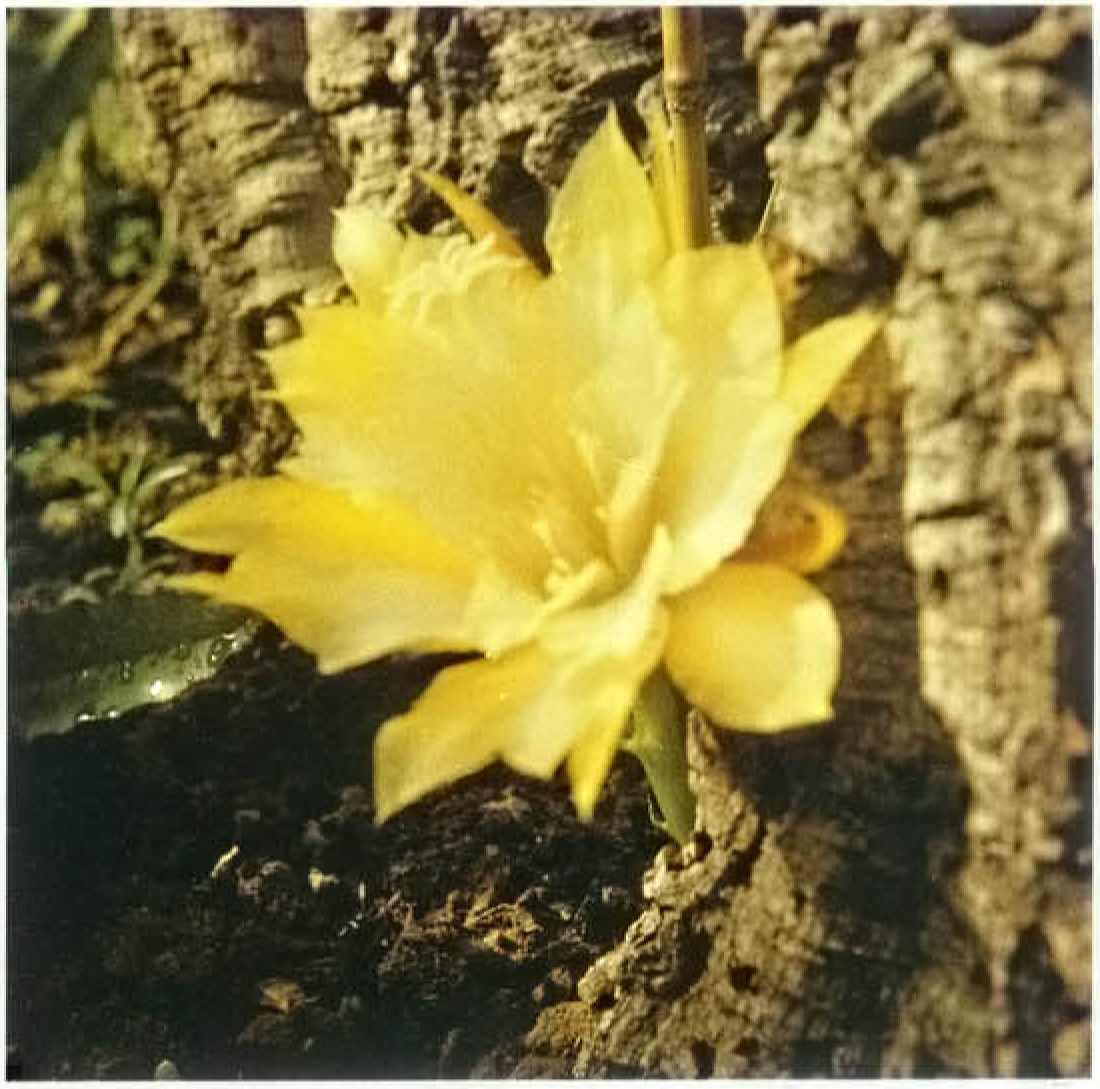


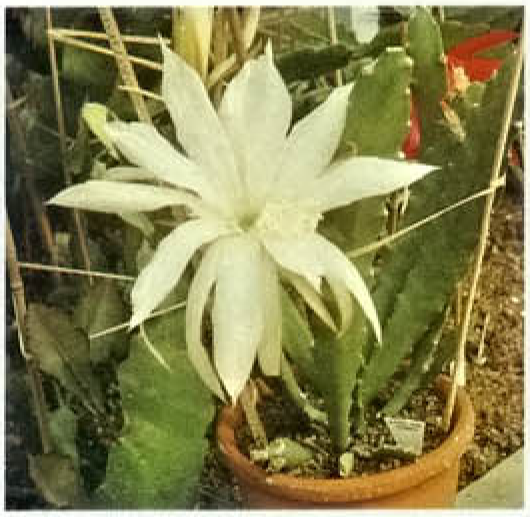
× EPICACTUS **'Sky Rocket'** Steele

A cultivar created in the USA in 1937. The large, pinkish-orange flowers are over 6in across when fully expanded, a striking feature being the prominent dark-red style. The flowers are diurnal, in spring. Needs protection from full sun; normal cactus compost; minimum temperature 50°F.

× EPICACTUS **'Soft Lights'** Wressey Cocke

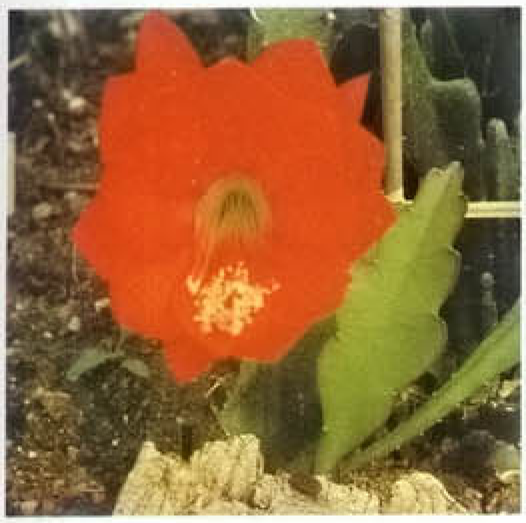
Produced in the USA in 1977 and developed in conjunction with Hawke Nursery, this is a fine yellow hybrid with pale inner petals and deeper yellow outer segments. The flowers are funnel-shaped up to 8–9in in diameter when fully expanded; day flowering, they appear in late spring to early summer. Needs filtered light; normal cactus compost; minimum temperature 50°F.





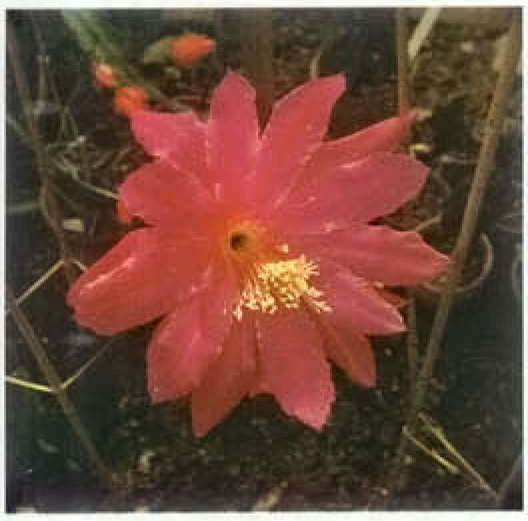
× EPICACTUS **'Shasta'** Steele

An American cultivar of consequence, the parentage being epicacti 'Peacockii' and 'Garden.' The unusual narrow and slightly twisted arrangement of the white petals produces a unique flower of up to about 6in across when fully open, flowering by day in mid- to late spring. Needs good light, but not full sun; normal cactus compost; minimum temperature 50°F.



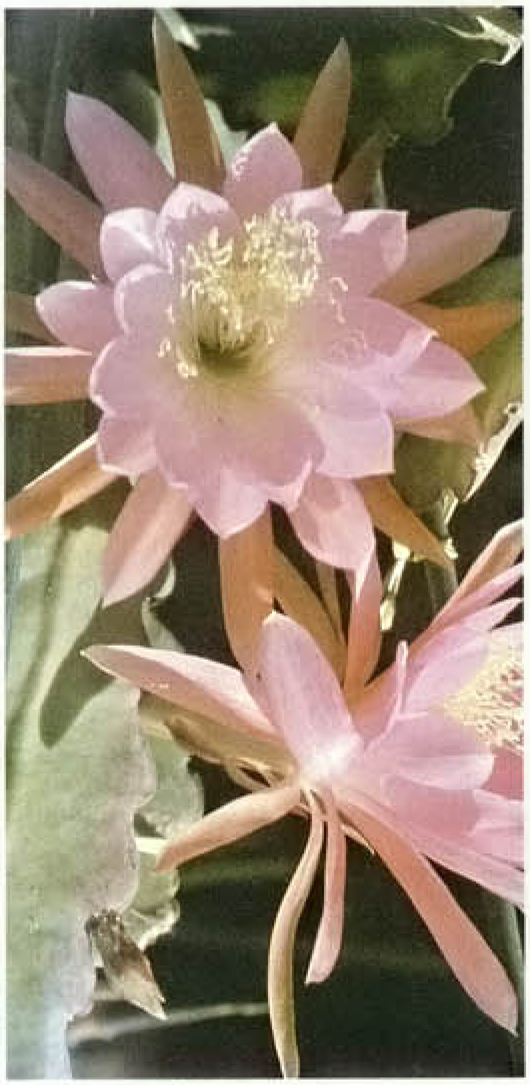
×EPICACTUS **'Soraya'** Innes

Developed in the UK in 1965 this is a somewhat dwarf spring-flowering plant with brilliant deep-scarlet, cup-shaped blooms. The broad, almost oval-shaped petals are similar throughout, creating a flower about 4¼in across when expanded, which last three to four days. Requires slight shade; normal cactus compost; minimum temperature 55°F.



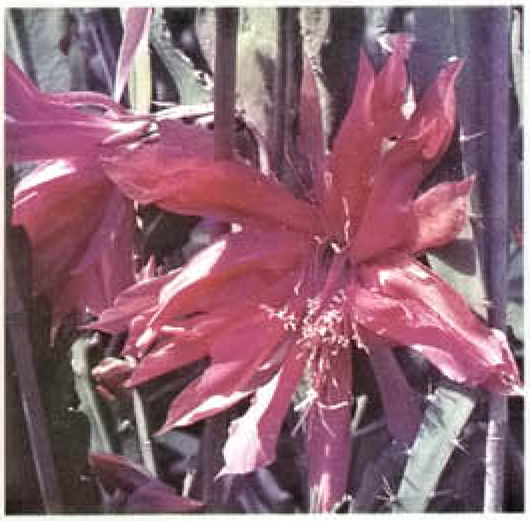
×EPICACTUS **'Space Rocket'** Monmonier

Produced by the Ventura Epiphyllum Gardens in the USA, this has proved one of the most exciting cultivars yet developed. It flowers by day in spring, producing a large, open blossom of pinkish red, with overlapping petals frilled and shading to a paler pink. Flowers are up to 7in in diameter. Requires slight shade; normal cactus compost; minimum temperature 55°F.



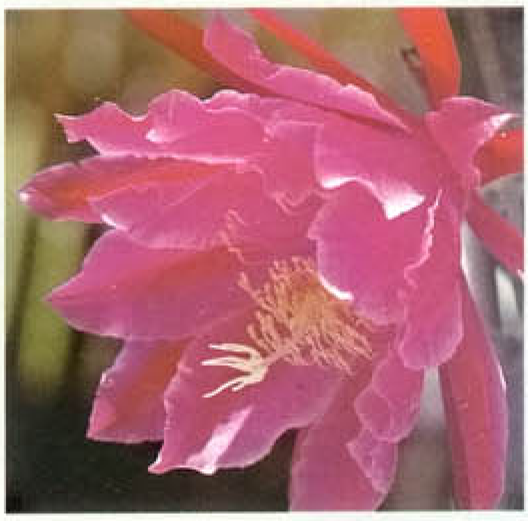
×EPICACTUS **'Sweet Alibi'** Monmonier

A beautiful, somewhat funnel-shaped bloom, 5–6in in diameter at the perimeter. It is a product of Theresa M. Monmonier of Ventura Gardens, USA, and is an extremely fascinating cultivar, day flowering in spring, with slender rose-cerise petals shading to a deeper color on the outer edges. Requires indirect light; normal cactus compost; minimum temperature 50°F.



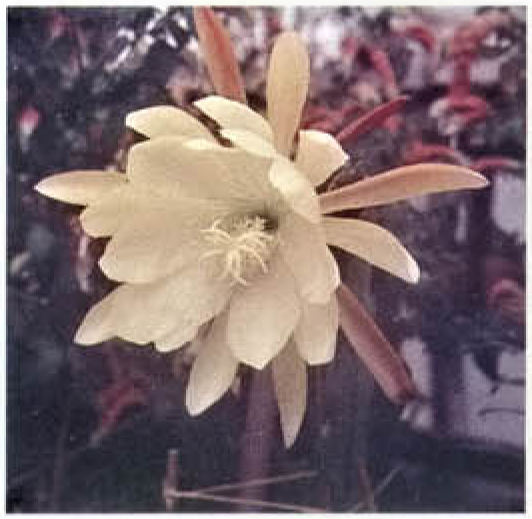
×EPICACTUS **'Tyke'** Passmore

Developed in the UK about 1935 and subsequently propagated for distribution by Holly Gate Nurseries. An extraordinarily "untidy" flower, about 4¾in in diameter, the reddish or orange-red petals are widely spreading in a twisting fashion. The flowers, which appear in spring, last for nearly one week. Needs slight shade; normal cactus compost; minimum temperature 55°F.



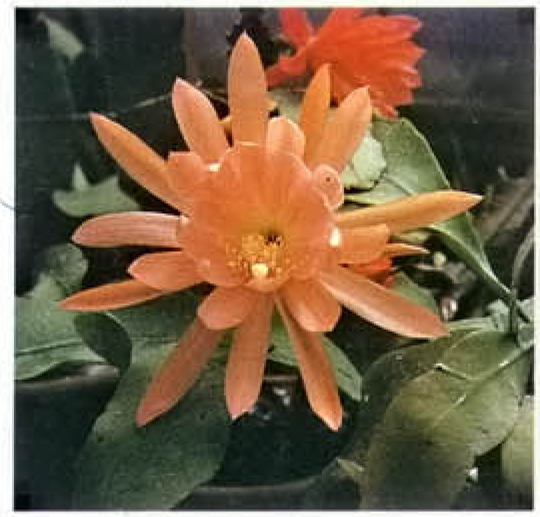
×EPICACTUS **'Ventura Jubilee'** Monmonier

This lovely intense rhodamine-purple flower opens almost flat, the sepals being of an even more intense cardinal red, and are 7in or even more in diameter. Produced in the USA, it continues to be a popular favorite. It is diurnal, and requires slight shade and certainly protection from full sun during the spring flowering season; normal cactus compost; minimum temperature 55°F.



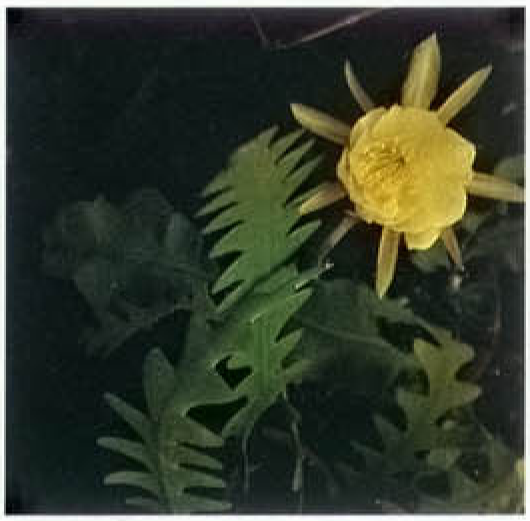
× EPICACTUS **'Wrayii'** Walton

An early-day cultivar produced in 1845 by the botanist F. A. Walton and given a latinized title. The flowers are very large, often up to 8in in diameter, and highly scented, the whitish-yellow petals contrasting with the brown and yellow of the sepals. It is day flowering from early spring to early summer. Requires partial shade; normal cactus compost; minimum temperature 55°F.



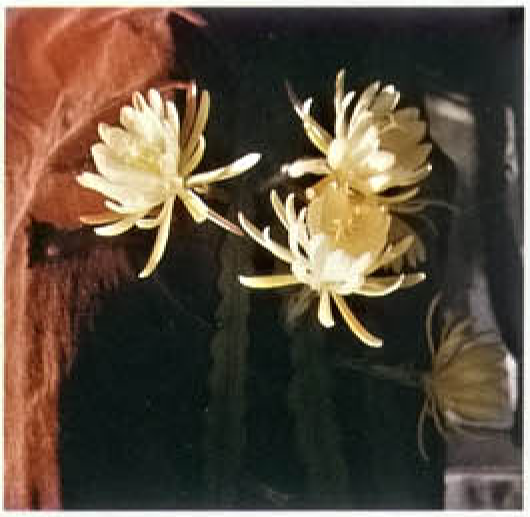
× EPICACTUS **'Zoe'** Innes

A low-growing, semi-prostrate cultivar produced in 1958. It flowers over a period of several weeks from very early spring to early summer, each bloom lasting for three or four days. The peach-orange cup-and-saucer flower is set in three rows of petals, and when fully expanded is about 4¾in across. Requires good light, but not full sun; normal cactus compost; minimum temperature 55°F.



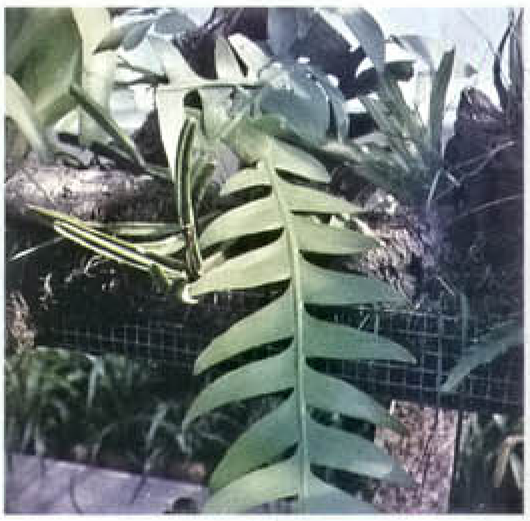
EPIPHYLLUM **ANGULIGER** (Lem.) G. Don
Syn: *Phyllocactus anguliger* Lem.

A bushy, much-branched epiphyte with flat, deeply notched, green, and fleshy stems to about 2ft long, 2½in in diameter. The spineless areoles are set between and at the base of the tooth-like notches. Flowers are diurnal in late spring and early summer, fragrant, and about 6in long on a slender tube. The inner segments are white or yellowish, the outer segments narrow and yellowish. Requires semi-shade; enriched open compost; minimum temperature 55°F. *Southern Mexico.*



EPIPHYLLUM **CARTAGENSE** (Weber) Br. & R.
Syn: *Phyllocactus cartagensis* Weber

A tall-growing, much-branched epiphyte. The stems, more or less flat, are up to and over 6½ft high, the branches also becoming elongated, 1½–2½in broad with serrated margins. The areoles are spineless. Appearing in late spring, the nocturnal flowers, about 8in long on a slender tube, have white inner segments and yellowish outer segments. The style and stamens are white, with pale yellow stigma lobes. Requires semi-shade; normal cactus compost; minimum temperature 59°F. *Costa Rica.*



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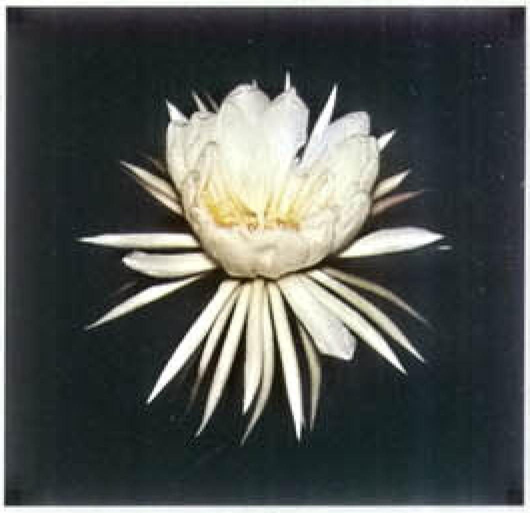

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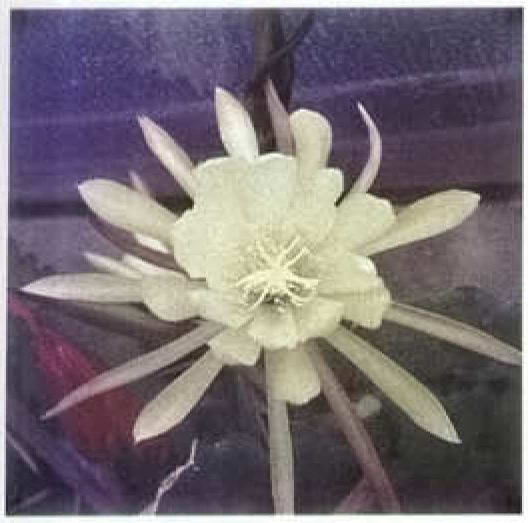
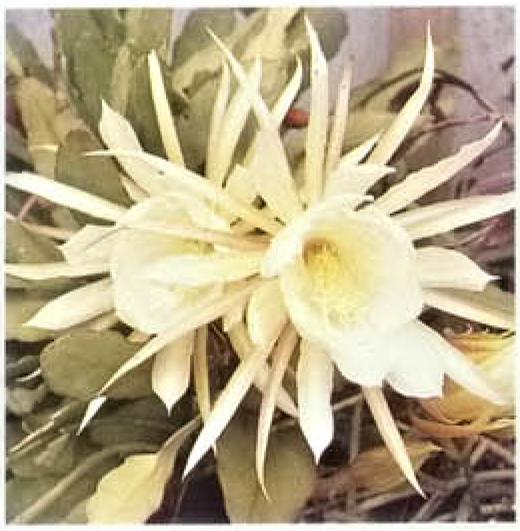
EPIPHYLLUM **CHRYSOCARDIUM** Alex.
Syn: *Marniera chrysocardium* (Alex.) Backeb.

A spectacular epiphyte with broad, flat, serrated stems and branches to about 1ft broad. The serrations form deep-set lobes, 1–1½in wide, indented to the midrib. The areoles are either spineless or have two to three bristles. Flowers are 1ft long with wide-spreading petals, the inner petals pure white, the outer ones pinkish externally; the style is white, and there are golden-yellow stamens. They are nocturnal, in spring to early summer. Requires semi-shade; enriched open compost; minimum temperature 59°F. *Mexico (Chiapas).*



EPIPHYLLUM **CRENATUM** (Lem.) Br. & R.
Syn: *Phyllocactus crenatus* Lem.

An erect, semi-epiphytic species to about 3ft tall. It has a cylindrical main stem and thick, leaf-like branches of grayish green up to 2ft long, 2½–3¼in broad, the margins undulating and notched, and spineless. The flowers are diurnal in summer, about 8in long and across when fully open. The inner petals are creamy white, the outer segments greenish or pinkish yellow. Requires only slight shade; normal cactus compost; minimum temperature 55°F. *Guatemala, Honduras.*



EPIPHYLLUM **CRENATUM var. KIMNACHII** Bravo
Syn: *Phyllocactus cooperi* Regel; *Seleniphyllum cooperi*

For years this was presumed to be a hybrid of *Epiphyllum Selenicereus*, a fact which remains undecided. The stems are leaf-like, 1½–2½in wide, with crenate edges and semi-circular lobes. The flowers bear a remarkable resemblance to both *Selenicereus grandiflorus* and *E. crenatum*. Requirements are the same as for the species. *Southern Mexico?*

EPIPHYLLUM **CRENATUM var. KINCHINJUNGA** Backeb.

An unusual variety of *E. crenatum*, recorded as being native to mountainous forest areas supposedly named Kinchinjunga. The stem and branch formation is very similar to the species, generally greenish gray in color with pronounced crenate margins, and the small, whitish woolly areoles are spineless. The pale, creamy-yellow flowers are diurnal in early summer, and about 4¾in long, 3¼in across when fully open. Requires only slight shade; normal cactus compost; minimum temperature 55°F. *Guatemala.*

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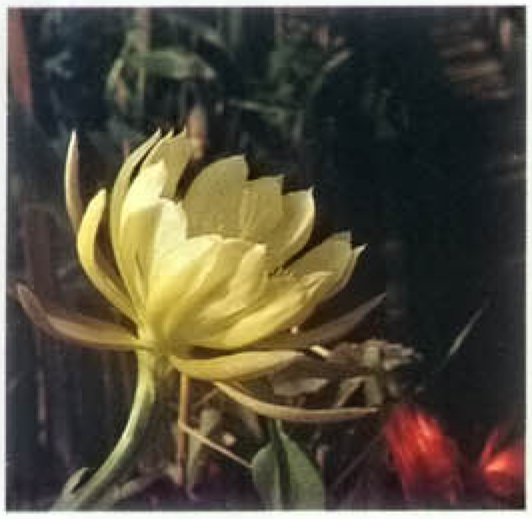
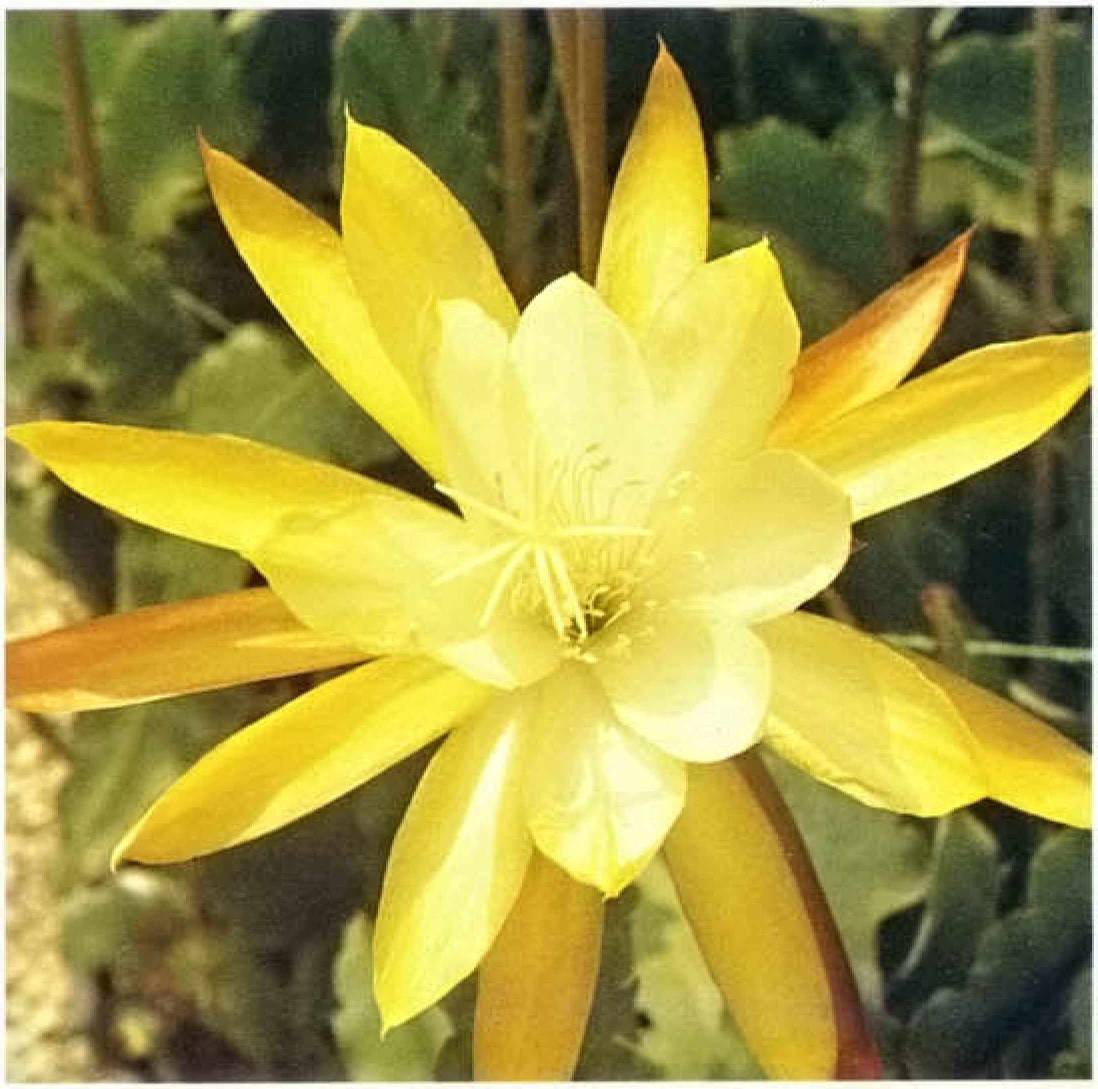
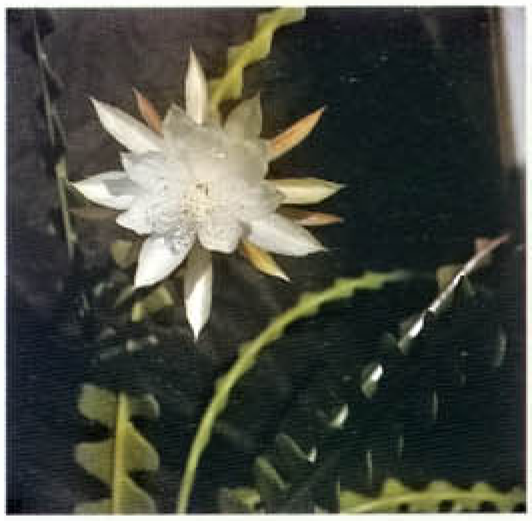


EPIPHYLLUM **CRENATUM var. CHICHICASTENANGO** Backeb.

A variety with stems and branches to about 2ft long with a prominent midrib and large, rounded, lobe-like crenations. The small areoles are spineless. Flowers are diurnal, appearing in early summer, and are about 4in long borne on a long green tube. The creamy-white petals are slightly incurving, and the outer petals are golden yellow and spreading. Requires partial shade; normal cactus compost; minimum temperature 55°F. *Guatemala.*

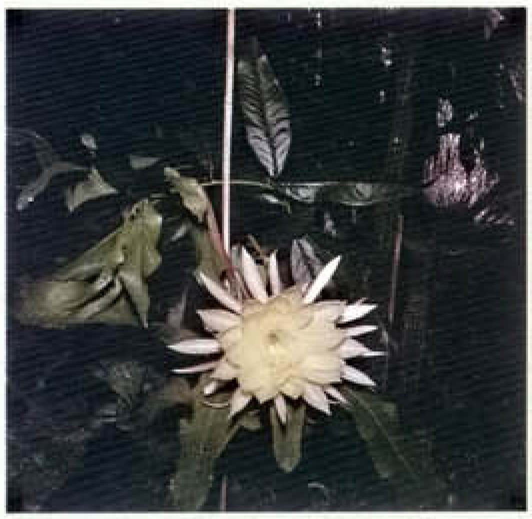




EPIPHYLLUM **DARRAHII** (K. Sch.) Br. & R.

Syn: *Phyllocactus darrahii* K. Sch.

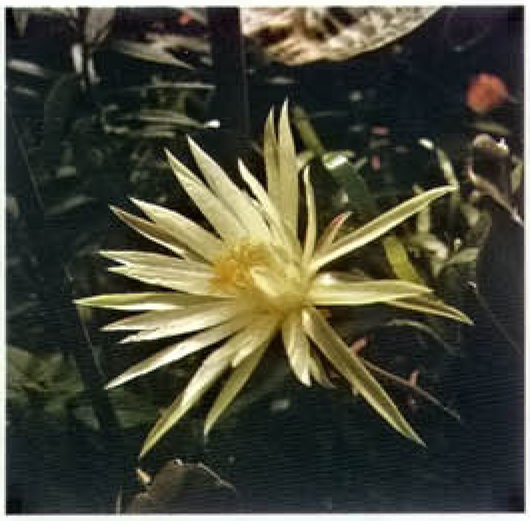
A bushy, branching epiphyte. The fresh green branches are 8in–1ft 3in long, 1–2in broad, and quite fleshy, the margins deeply toothed with rounded notches forming lobes. Flowers are diurnal in early summer. Pure white with yellowish outer petals and 2½–3in across, they are fragrant and borne on a greenish-pink tube about 4¼in in length. Requires semi-shade; a porous, fairly acid compost; minimum temperature 55°F. *Mexico (Chiapas).*



EPIPHYLLUM **OXYPETALUM** (DC.) Haw

Syn: *Cereus oxypetalus* DC.; *Phyllocactus latifrons* Link; *Epiphyllum latifrons* (Link) Zucc.

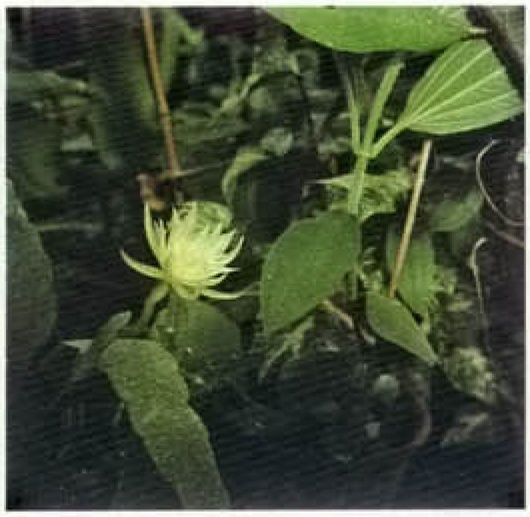
A much-branching epiphyte up to 10ft long. The stems are cylindrical, the branches, 4–4¾in broad, are flat and leaf-like. The flowers are nocturnal, appearing in mid-summer, and are 10in–1ft long and 4¾in across with a long, curved, arching tube. The petals are white. Requires a humid, shaded position; enriched porous compost; minimum temperature 55°F. *Mexico, Guatemala, Venezuela, Brazil.*



EPIPHYLLUM **PHYLLANTHUS** (L.) Haw.

Syn: *Cactus phyllanthus* L.; *Phyllocactus phyllanthus* Link

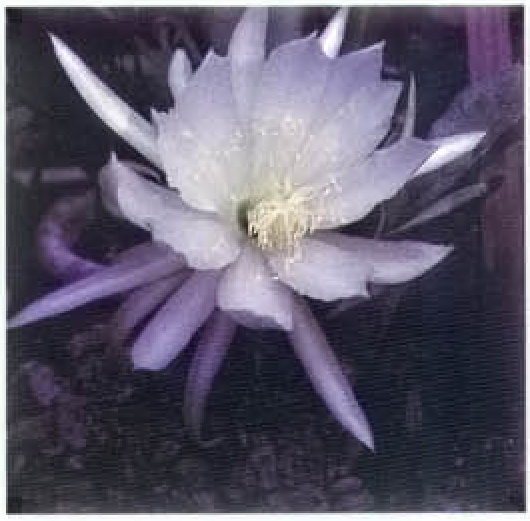
Cylindrical main stems and flat, thin, leaf-like green branches with purple-shaded margins. These are up to 3in broad and are broadly serrated. Flowers, nocturnal in mid-summer, are 10in–1ft long with a slender, long, greenish-pink tube. The glistening white petals are all narrow, ¾–1in wide, and the style varies in color, being red, orange, pink, or rarely white. Needs shade, which is essential; an acid compost; minimum temperature 59°F. *Panama to Peru, Brazil.*



EPIPHYLLUM **PUMILUM** (Vaup.) Br. & R.

Syn: *Phyllocactus pumilus* Vaup.

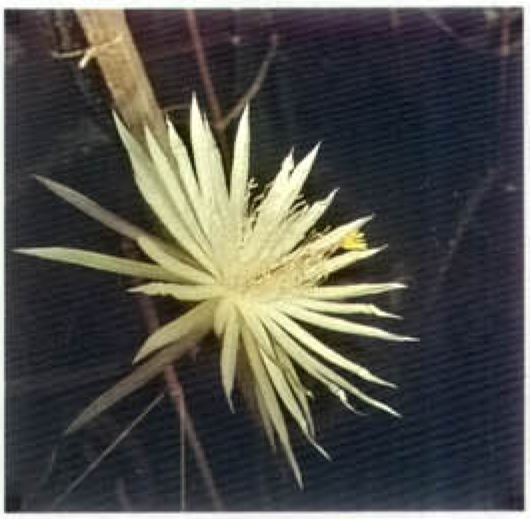
A semi-erect or pendant epiphyte with long, flat, leaf-like stems and branches. The main stem is usually terete at the base, otherwise this and the branches are 1–3¼in broad, often tapering to an almost pointed tip, and the margins have shallow crenations. Flowers are small and fragrant, creamy white, and borne on a greenish tube 2½in long. They are nocturnal, appearing in mid-summer. Filtered light is essential; a porous acid compost; minimum temperature 64°F. *Guatemala.*



EPIPHYLLUM **RUESTII** Weingt.

Syn: *Phyllocactus ruestii* Weingt.

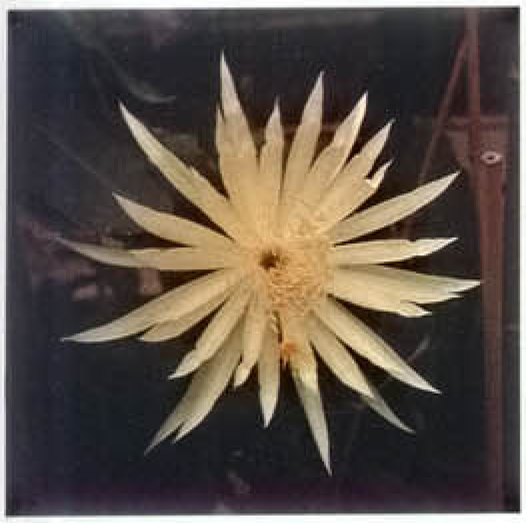
A semi-epiphytic species to 3ft tall. The stems are often three-angled, the branches flat and up to 1½ft long, 4in broad, lance-shaped, and with slightly notched margins. The areoles are very small and generally spineless. Flowers, nocturnal in early summer, are 10in–1ft long, greenish or pinkish white. Inner segments are about ⅔in wide, outer segments narrower and partially spreading. Requires filtered light; normal cactus compost; minimum temperature 59°F. *Honduras.*



EPIPHYLLUM **STENOPETALUM** (Förster) Br. & R.

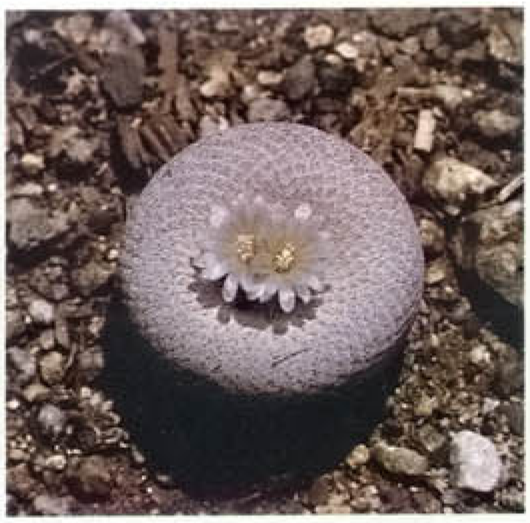
Syn: *Phyllocactus stenopetalus* Förster

A forest epiphyte up to 6½ft high. It has terete stems and flat, dark green branches, shallowly notched along the margins, 2½–3¼in broad and spineless. The flowers are nocturnal in summer; they are 10–11in long on a long, red-scaled tube. Petals are narrow and spreading, the inner ones white and the outer ones greenish white and only ⅕in broad. There is a prominent red style with deep yellow stigma lobes. Semi-shade is essential, and a porous acid compost; minimum temperature 59°F. *Mexico (Oaxaca).*



EPIPHYLLUM **STRICTUM** (Lem.) Br. & R.
Syn: *Phyllocactus strictus* Lem.

Some authorities place this as a variety of *E. phyllanthus*. It is a forest epiphyte to 6½ft high with a cylindrical main stem and narrow, flat, bluish-green branches up to 3¼in broad. These are spineless and the margins are coarsely serrated. The flowers, nocturnal in mid-summer, are up to 10in long and borne on a slender green tube 6in long. Of the very narrow petals, the inner ones are white, the outer pale greenish externally, and there is a pinkish style. Requires semi-shade; normal cactus compost; minimum temperature 59°F. *Honduras, Guatemala.*

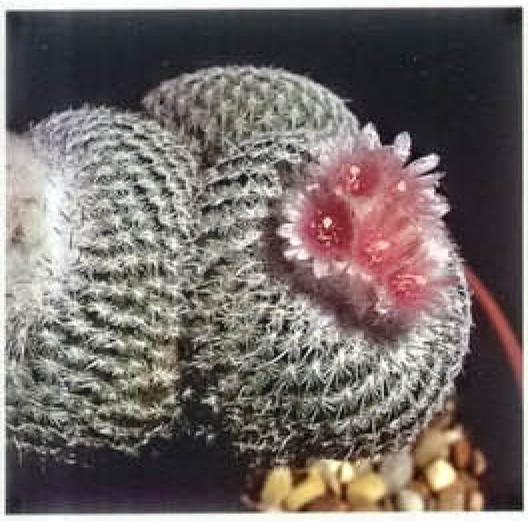


EPITHELANTHA **MICROMERIS var. BOKEI** (L. Benson) Glass & Foster

Originally described as a distinct species. The plants are 1–2in thick and covered with minute tubercles. The areoles bear numerous densely set spines which obscure the stem. Flowers are very pale pink and about ½in across. Requirements are the same as for the species. *Mexico (Chihuahua), USA (Texas).*

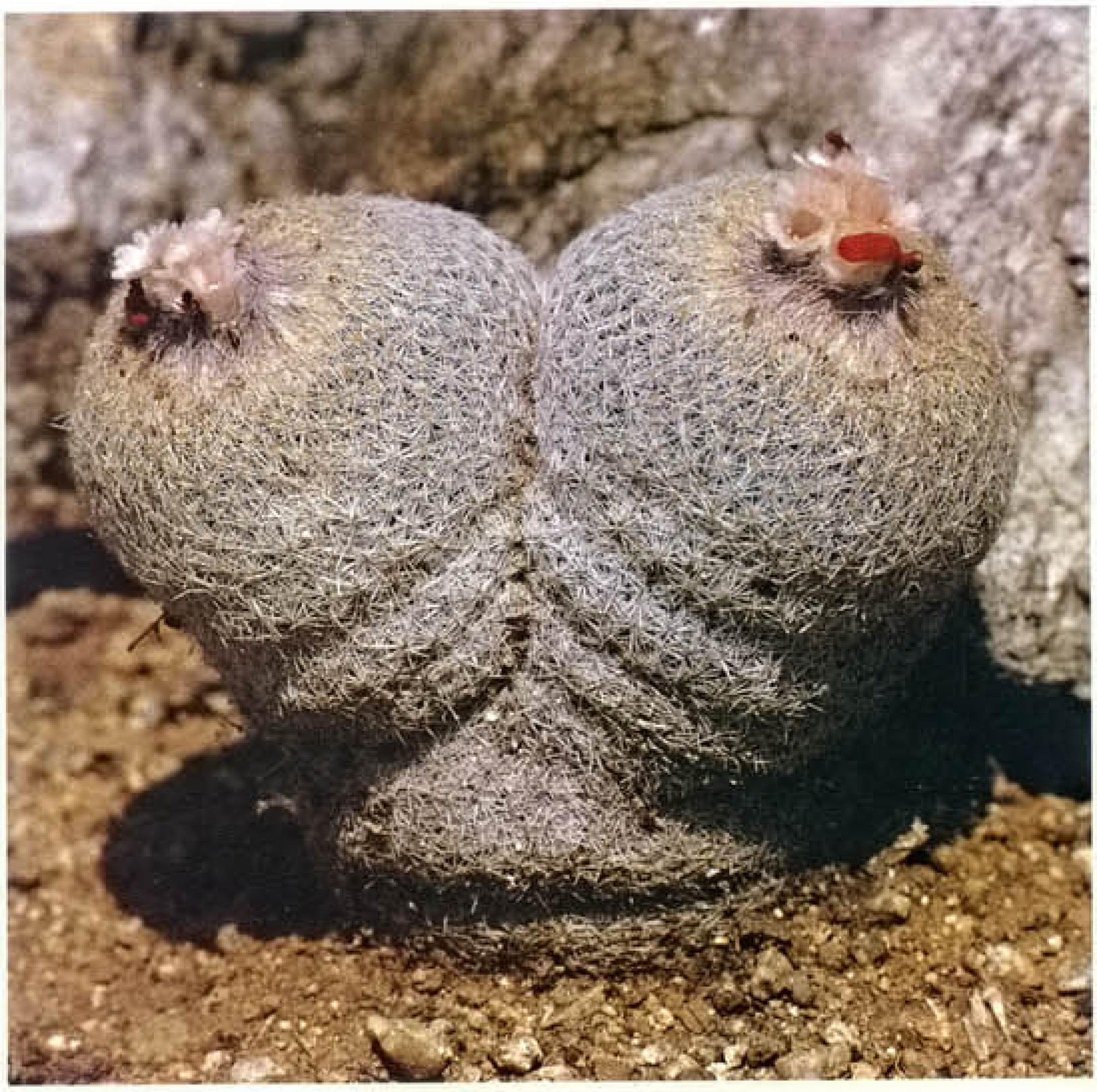
EPITHELANTHA **MICROMERIS var. GREGGII** (Engelm.) Borg

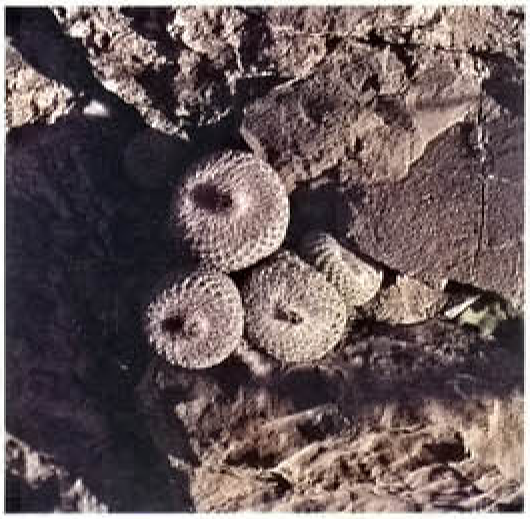
Previously considered a species in its own right, this is a larger-growing variety up to about 3¼in high, frequently offsetting. The tubercles are longer, the radial spines are up to ⅓in long, and there are frequently one or more longer centrals. The flowers, too, are a deeper pink. Requirements are the same as for the species. *Mexico (Coahuila).*



EPITHELANTHA **MICROMERIS** (Engelm.) Weber
Syn: *Mammillaria micromeris* Engelm.

Unusual globular plants, solitary or grouped, up to about 2½in. They are thick set with spiraling rows of small tubercles set close together. Small areoles bear tufts of about 20 white spreading spines up to ¹⁄₁₆in long. Flowers appear in summer; these are diurnal, arising from the center of the white woolly crown, and are about ½in across, white or pale pink. Requires sun and warmth; a calcareous compost; minimum temperature 50°F. *Mexico (Coahuila, Nuevo Leon), USA (Texas).*





EPITHELANTHA **MICROMERIS var. PACHYRHIZA** (Backeb.) Bravo
Syn: *Epithelantha pachyrhiza* (Marsh.) Backeb.

The stems are somewhat cylindrical, up to about 1½in thick, and usually clustering. They are covered with minute tubercles from which arise numerous minute white spines. Flowers are whitish pink. Requirements are the same as for the species. *Mexico (Coahuila).*

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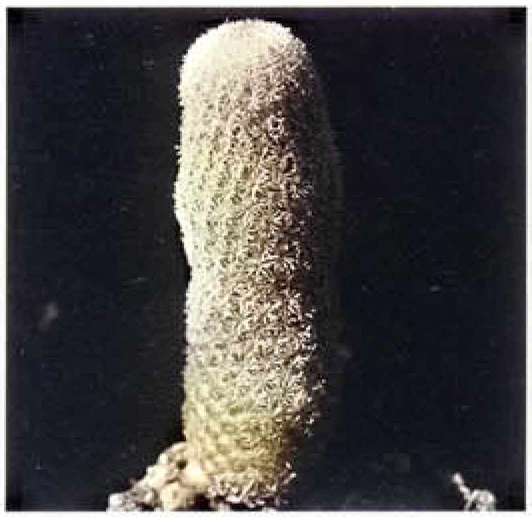

EPITHELANTHA **MICROMERIS var. POLYCEPHALA** (Backeb.) Glass & Foster
Syn: *Epithelantha polycephala* Backeb.

A small clustering plant with stems 3in or more long, to ¾in thick, covered with minute green tubercles, spirally arranged. Areoles with very short white hairs and numerous whitish spines. Day flowering in summer, flowers are pinkish about ⅓in long, 2in wide, and funnel-shaped. Needs full sun; enriched mineral compost; minimum temperature 50°F.

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EPITHELANTHA **MICROMERIS var. UNGUISPINA** (Böed.) Backeb.

Very similar in size to the species, but the green body is more exposed. The white hairy areoles bear numerous white radial spines, the lower ones considerably longer than those of the species, up to ½in in length. The rose to pale pink flowers spring from the tubercles in the crown of the plant, not from the areoles. Requirements are similar to those for the species. *Mexico (Nuevo Leon).*

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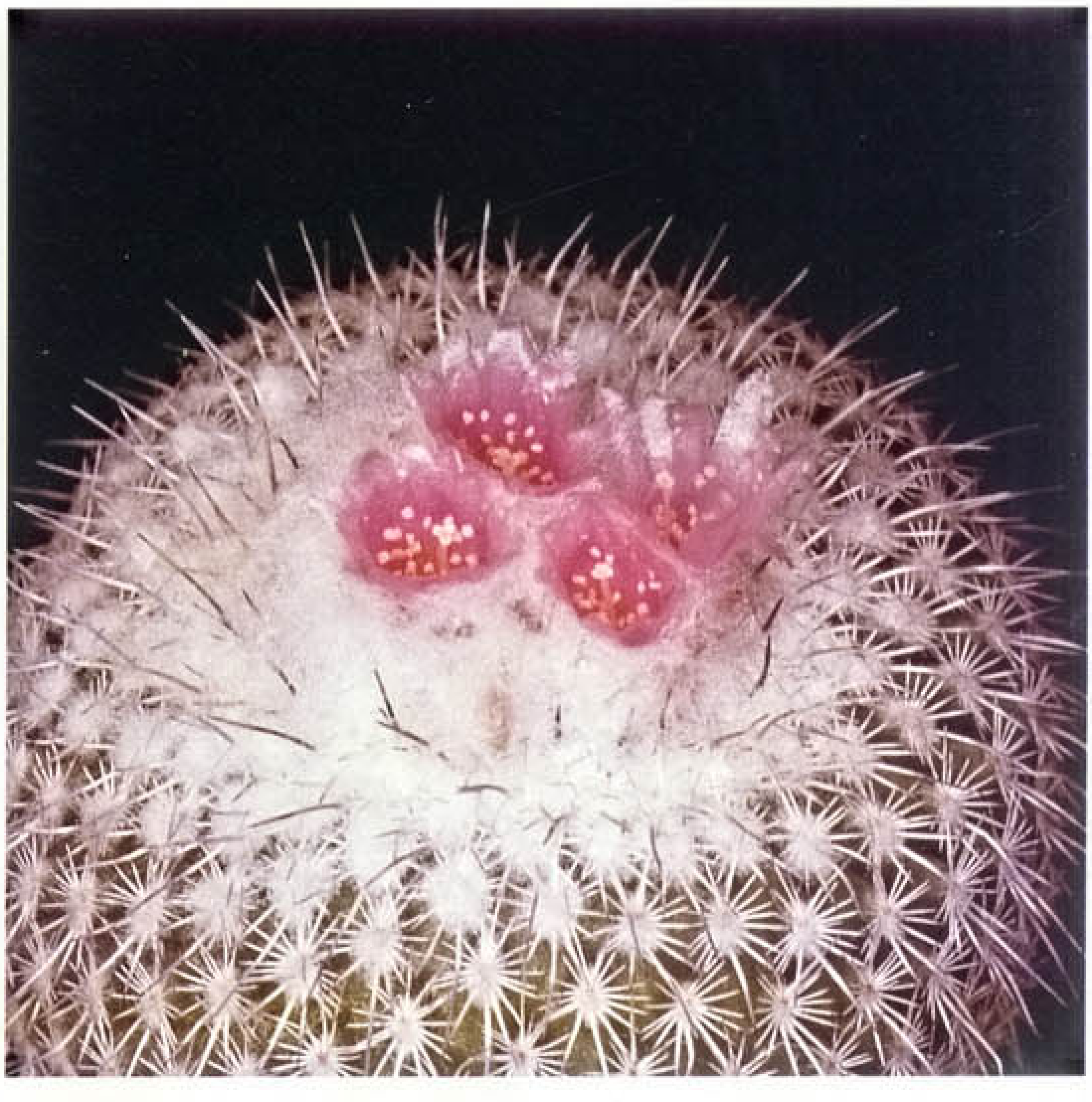

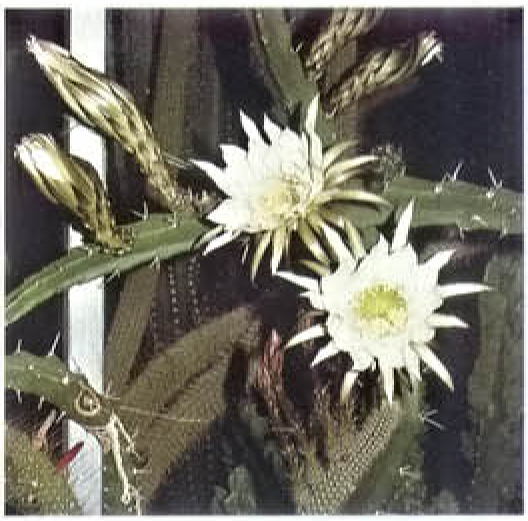

ERIOCEREUS **BONPLANDII** (Parment.) Ricco.
Syn: *Harrisia bonplandii* (Parment.) Br. & R.

A climbing species with stems 6½–10ft in length, 1–3¼in thick. The color is bluish-green. There are four to six ribs with broad furrows between and the areoles are grayish arranged ⅔–1in apart with three to eight grayish-white spines. Flowering at night in summer, the flowers are about 10in long, with white inner petals. Requires good light but not necessarily full sun; normal cactus compost; minimum temperature 55°F. *Brazil, Argentina, Paraguay.*

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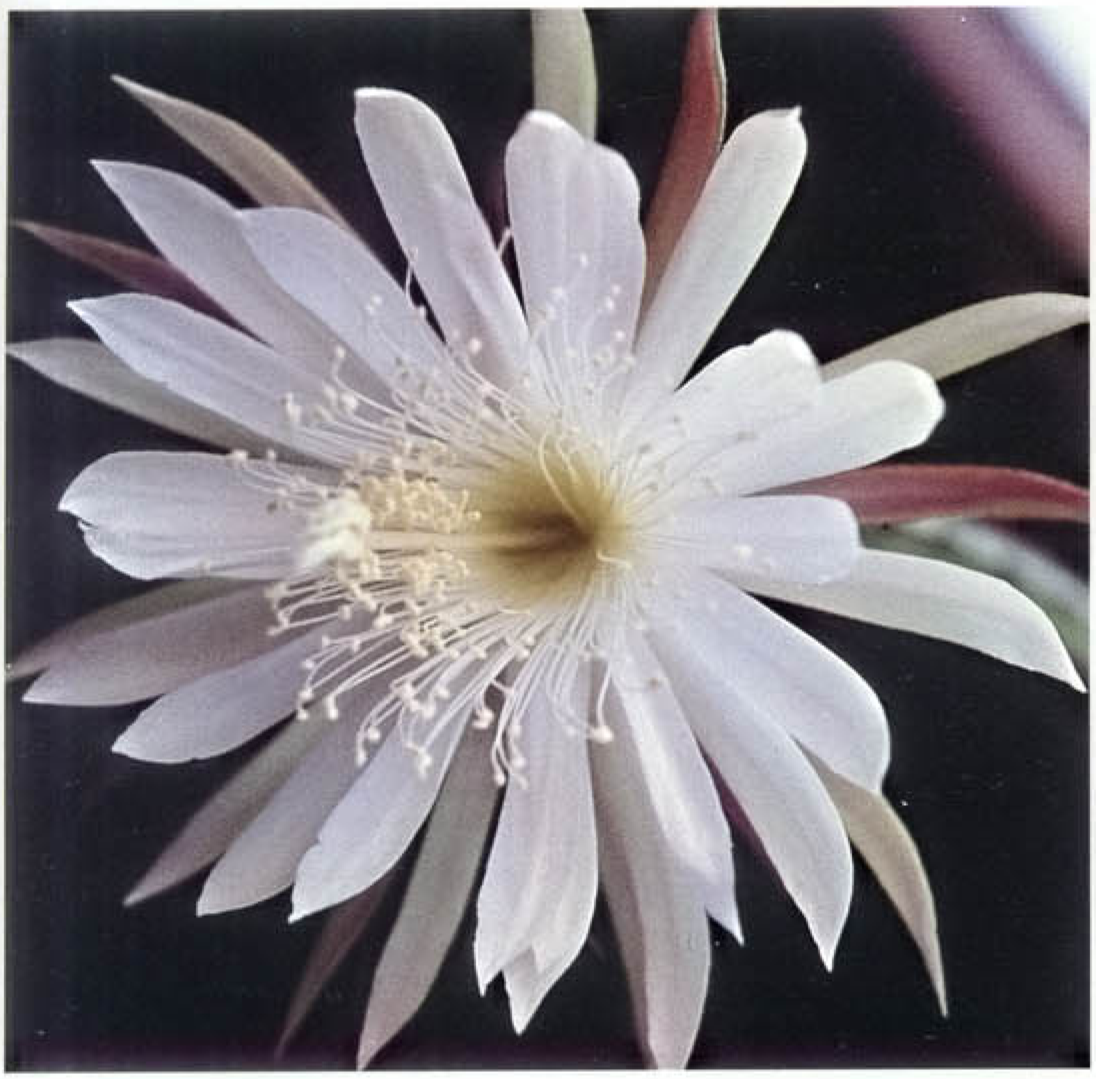
ERIOCEREUS



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ERIOCEREUS **JUSBERTII** (Rebut) Ricco.
Syn: *Harrisia jusbertii* (Rebut) Br. & R.

Plants are usually solitary. The dark green stems are 1½–2½in thick with five to six broad ribs along which yellowish-gray areoles are set at ¾in intervals. Spines are brownish to black, consisting of about seven radials ⅕in long and one to four slightly longer centrals. The flowers are nocturnal, appearing in mid-summer. They are up to about 6in long, and 7–8in in diameter, with pure white inner petals and brownish-green outer segments. Requires filtered light; normal cactus compost; minimum temperature 50°F. *Argentina or Paraguay.*

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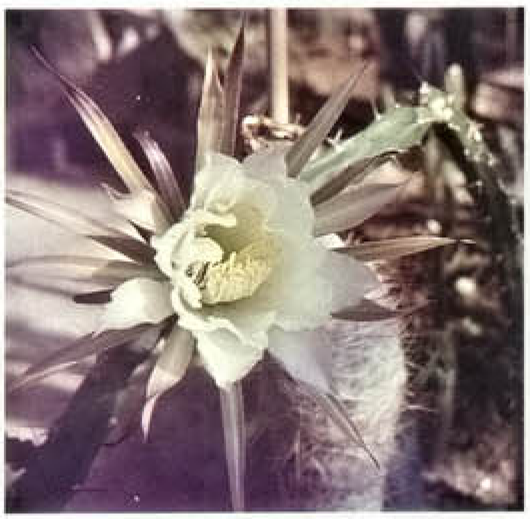

ERIOCEREUS **POMANENSIS** (Weber) Berger
Syn: *Harrisia pomanensis* (Weber) Br. & R.

The grayish-green stems are more or less erect, with three to six rather angled ribs. Areoles are brown, and about ¾in apart with grayish-white, black-tipped spines, of which up to seven are radials about ½in in length and one or two are centrals to ¾in long. The plant is nocturnal flowering in early summer; flowers are white and about 6in long and across, with pinkish-green outer segments. Needs partial shade; normal cactus compost; minimum temperature 55°F. *Argentina.*

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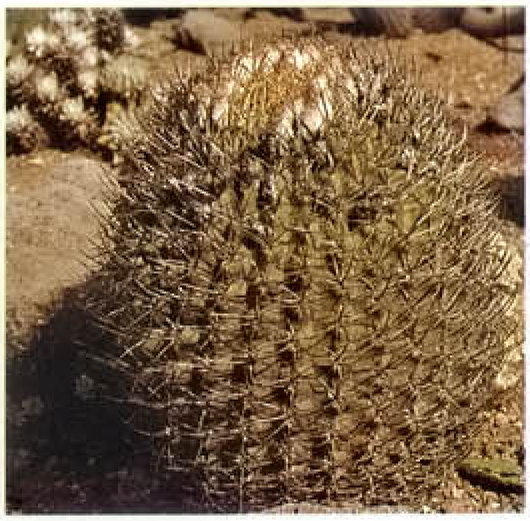
ERIOSYCE



ERIOSYCE **AUSSELIANA** Ritter

A gray-green, more or less globular plant up to 1ft 3in in diameter. It has about 37 ribs, divided into prominent tubercles. The areoles bear 12–14 radial spines about ¾in long and there are six to twelve centrals, slightly longer. All are grayish brown, and the newer spines brownish yellow. Flowers are unknown; possibly they are pinkish purple, about 1in long, diurnal and blooming in summer. Needs bright light; normal cactus compost; minimum temperature 50°F. *Chile (La Serena).*

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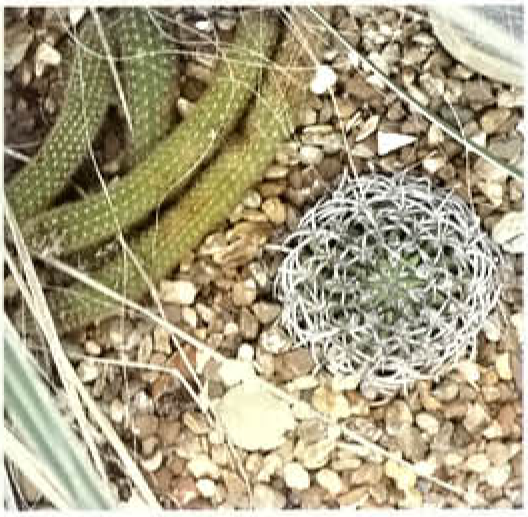

ERIOSYCE **IHOTZKYANA** Ritter

A globular plant which in its habitat can reach 1ft 3in in diameter, but is considerably smaller in cultivation. It has up to 37 ribs with areoles bearing thick, sturdy dark-grayish to yellowish spines, of which eight to twelve are radials ¾–1½in long, and generally two to three centrals. It is day flowering in summer. The flowers are purple with pale yellow or whitish margins, 1–1½in long, and are borne only on mature plants. Needs sun; normal cactus compost; minimum temperature 50°F. *Chile (Coquimbo).*

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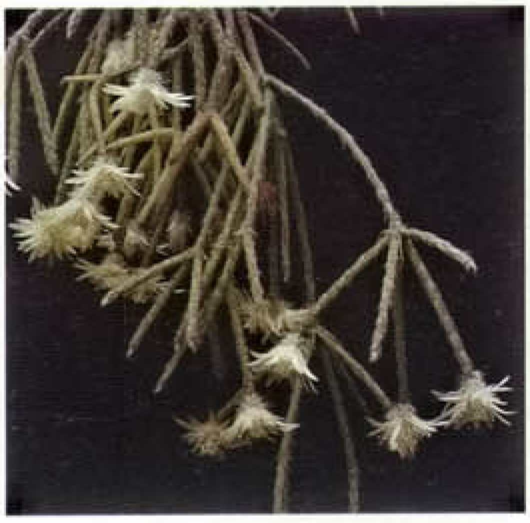

ERYTHRORHIPSALIS **PILOCARPA** (Loefgr.) Berger

An epiphyte with long, grayish-green, cylindrical stems, branching in whorls and becoming pendant. The branchlets are 1–4¾in long, 1/10–¼in thick, with eight to ten indistinct ribs. The white, woolly areoles bear three to ten minute bristly spines. Flowers are fragrant and diurnal, coming out in winter or early spring. They are yellowish white and about 1in wide. The plant is an ideal choice for hanging baskets. Needs partial shade; normal cactus compost; minimum temperature 50°F. *Brazil (Rio de Janeiro, Sao Paulo).*

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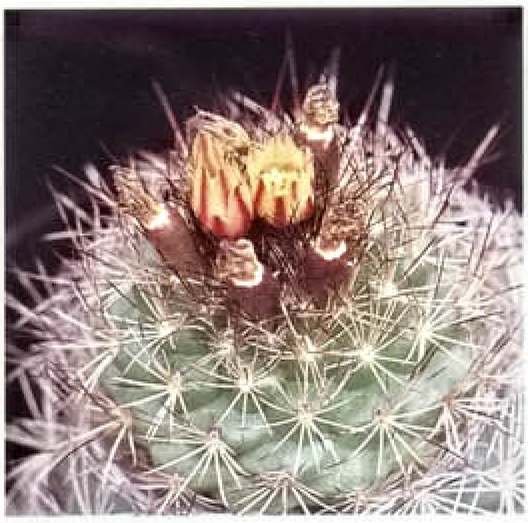

ESCOBARIA **AGUIRREANA** (Glass & Foster) N. P. Taylor
Syn: *Gymnocactus aguirreanus* Glass & Foster; *Thelocactus aguirreanus* (Glass & Foster) Bravo

This medium-green species is globular to 2in high, 3in in diameter. The tubercles are ½in long, ⅔in wide, and the spines, grayish pink with dark tips, are composed of 13–16 radials. Summer flowering and diurnal, the flowers are yellow with a cerise midstripe, and the outer segments have a broad reddish-purple center line. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico.*

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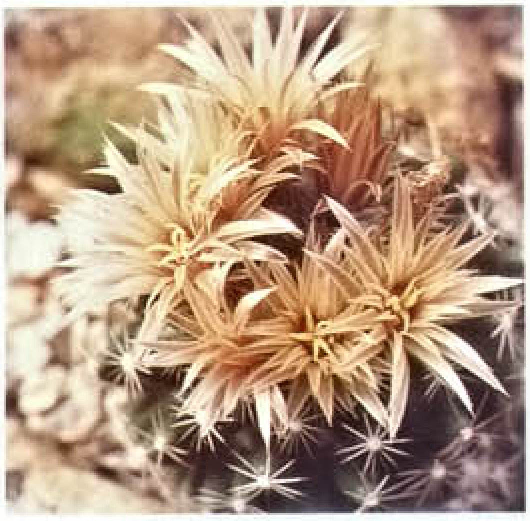

ESCOBARIA **ASPERISPINA** (Böed.) D. R. Hunt
Syn: *Coryphantha asperispina* Böed.; *Neobesseya asperispina* Böed.

The stems are a dull bluish green and are globular, about 2½in thick. There are conical tubercles about ⅘in long, and bare axils. The areoles bear nine to ten stiff radial spines to ½in long. Flowering in summer, and diurnal, the flowers are whitish yellow with a pale brownish or olive-green center stripe to the petals, which are 1⅕in long, 1in across. Requires bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Coahuila).*

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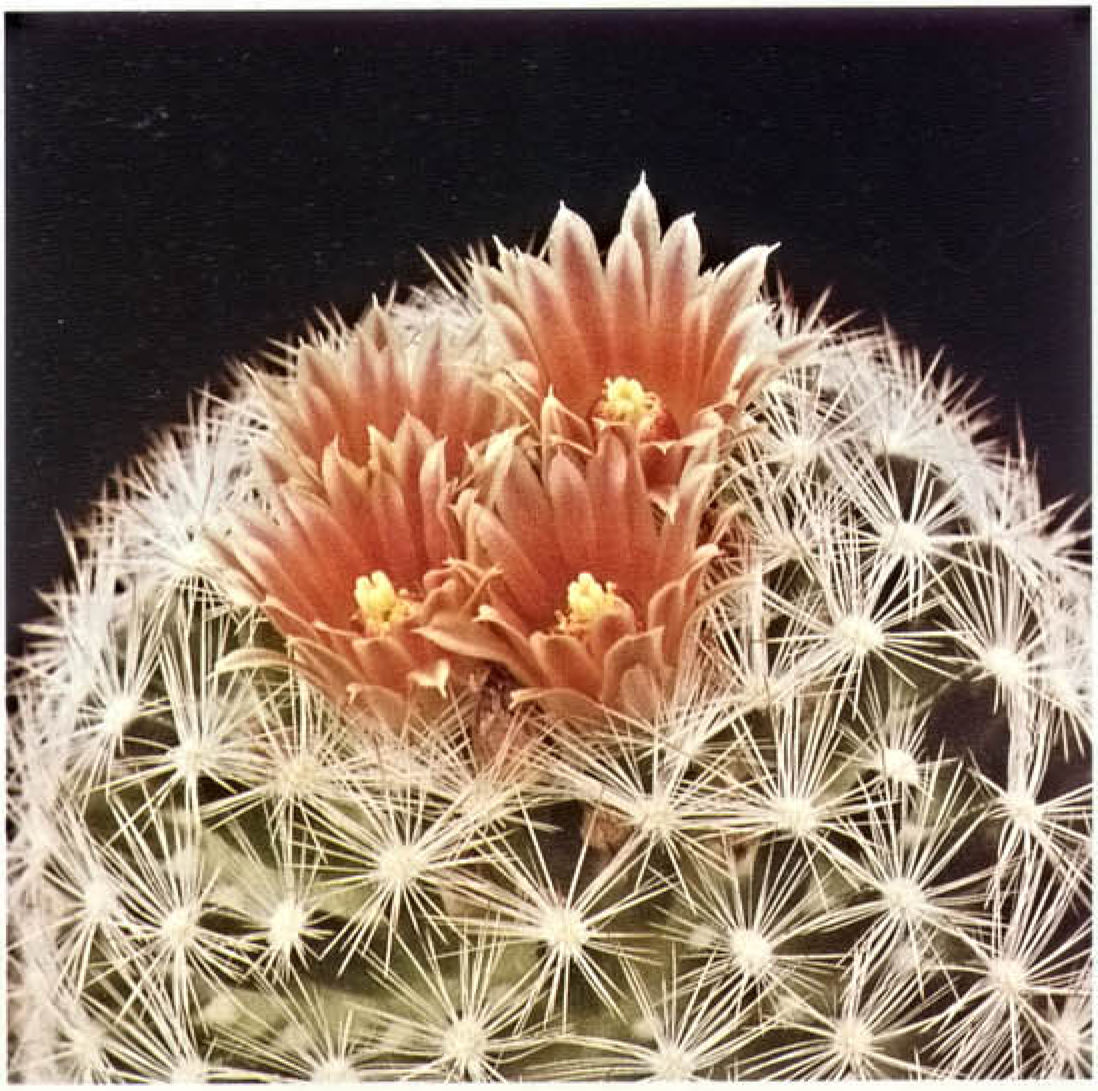

ESCOBARIA **CHAFFEYI** Br. & R.
Syn: *Escobaria dasyacantha* var. *chaffeyi* (Br. & R.) N. P. Taylor

An oval-shaped plant, solitary or clustering, the dark green stems are up to 4¾in high, 2–2½in wide. Tubercles bear 18 or more white bristle-like radial spines, and one or more shorter white, brown-tipped centrals. It flowers in summer, and is diurnal. The blooms are yellowish white with a broad reddish-brown center area to the petals, which are about ⅔in long, ½in wide. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Zacatecas, Cedros).*

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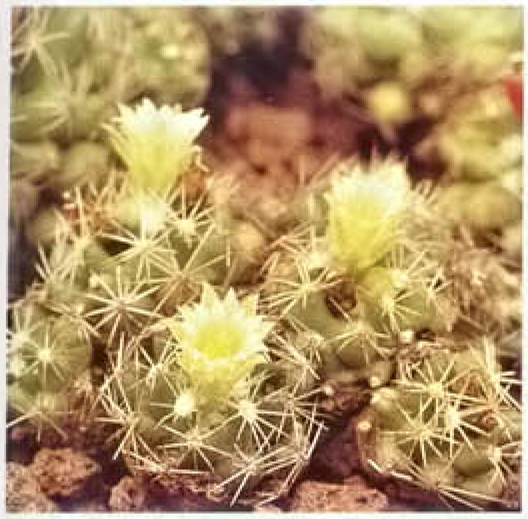
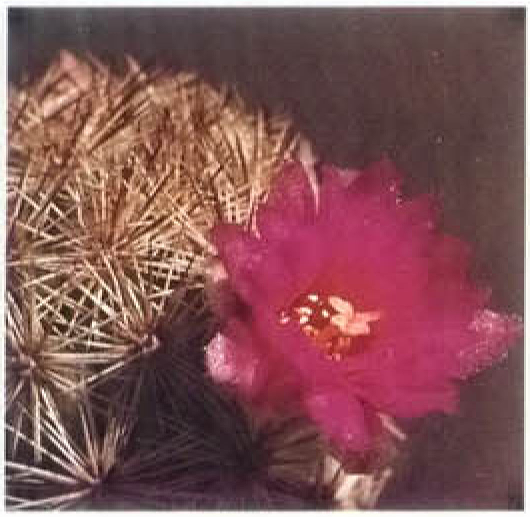


ESCOBARIA **CUBENSIS** (Br. & R.) D. R. Hunt

Syn: *Neolloydia cubensis* (Br. & R.) Backeb.; *Coryphantha cubensis* Br. & R.

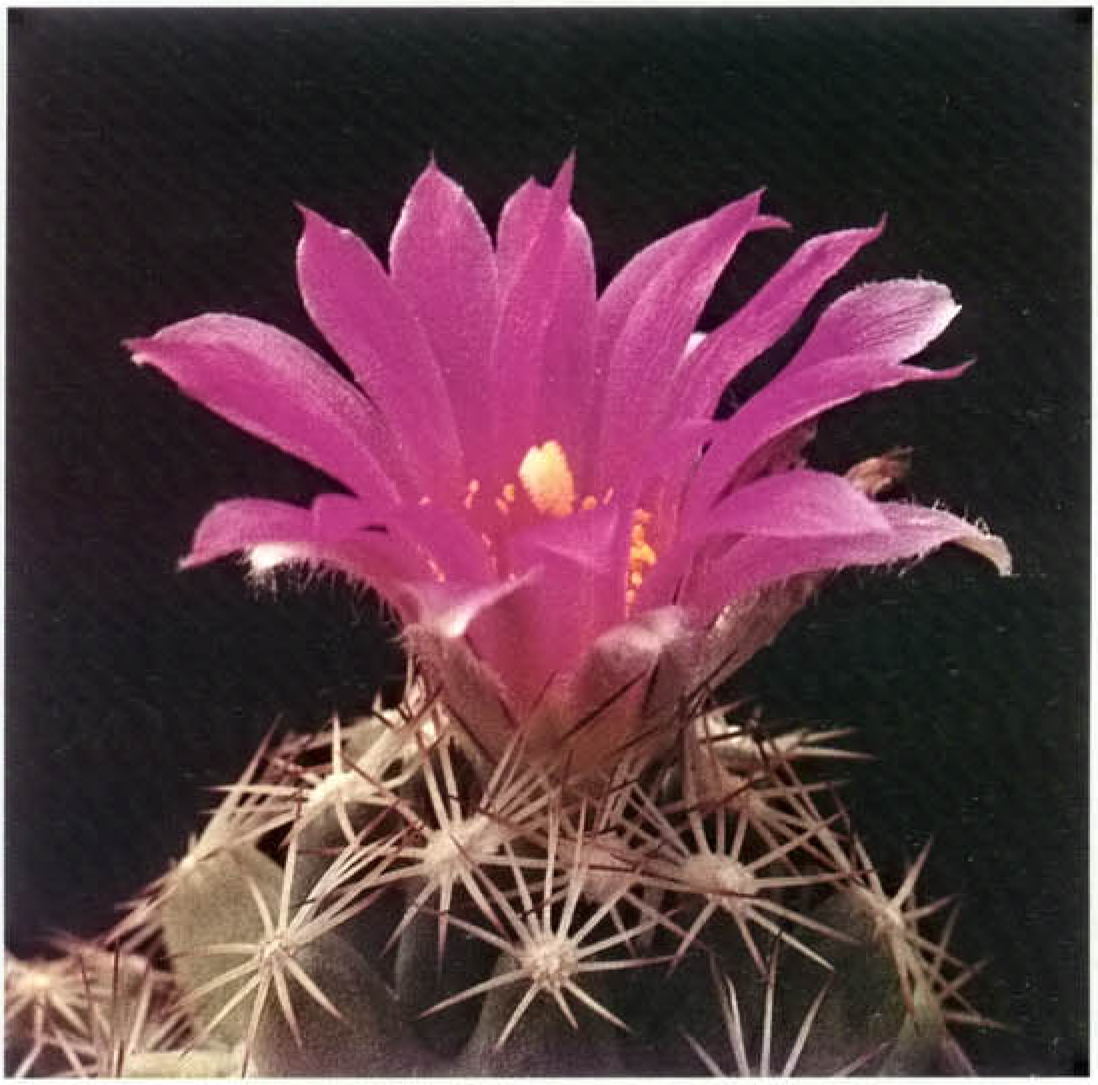
The plants are globose, ¾–1in in diameter and pale green in color, offsetting to form small clumps. The conical tubercles are ¼–⅓in long, ⅕in wide at the base, and grooved on the upper side. White areoles bear about 10 whitish radial spines ⅒in long. Flowering during summer, and diurnal, the flowers are pale yellowish green, about ⅔in long. Requires sun; normal cactus compost; minimum temperature 55°F. *Cuba.*



ESCOBARIA **HENRICKSONII** Glass & Foster

Syn: *Coryphantha henricksonii* (Glass & Foster) Glass & Foster

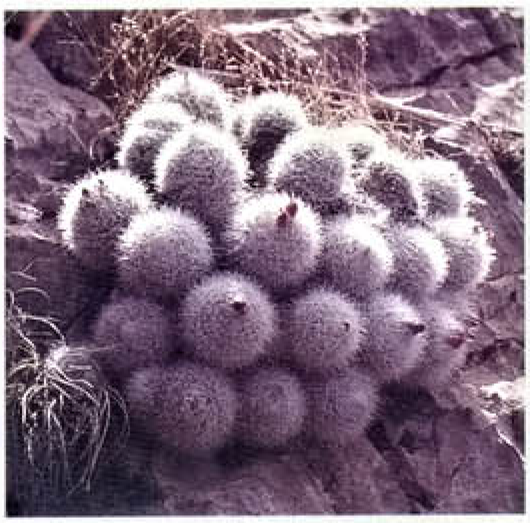
A pale green, tuberous-rooted plant with a few cylindrical stems up to 3¼in high, 1in in diameter. The tubercles are about ¼in long, ⅕in wide, and the axils are bare. There are about 32 whitish radial spines, ⅕in long, and ten centrals, ⅒in long, with one only 1⁄16in. Flowers are diurnal, appearing in summer; they are cerise, and about 1in in diameter. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Chihuahua).*

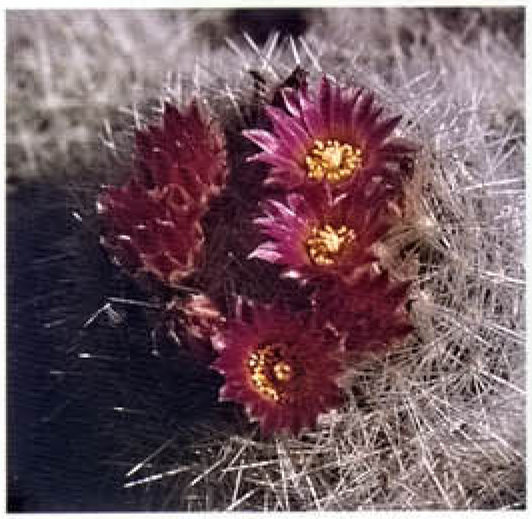


ESCOBARIA **HESTERI** (Y. Wright) Buxb.

Syn: *Coryphantha hesteri* Y. Wright

A small, globular, clustering species, it often forms clumps up to 1ft in diameter in the wild. The stems, 1–1½in high, are dull green, with conical tubercles to ½in long. There are 14–16 pale brownish-yellow radial spines about ⅔in long, but with no centrals. Flowering in summer, it is diurnal. The flowers are bright purple, about 1in long and in diameter. Requires bright light; normal cactus compost; minimum temperature 50°F. *USA (Texas).*

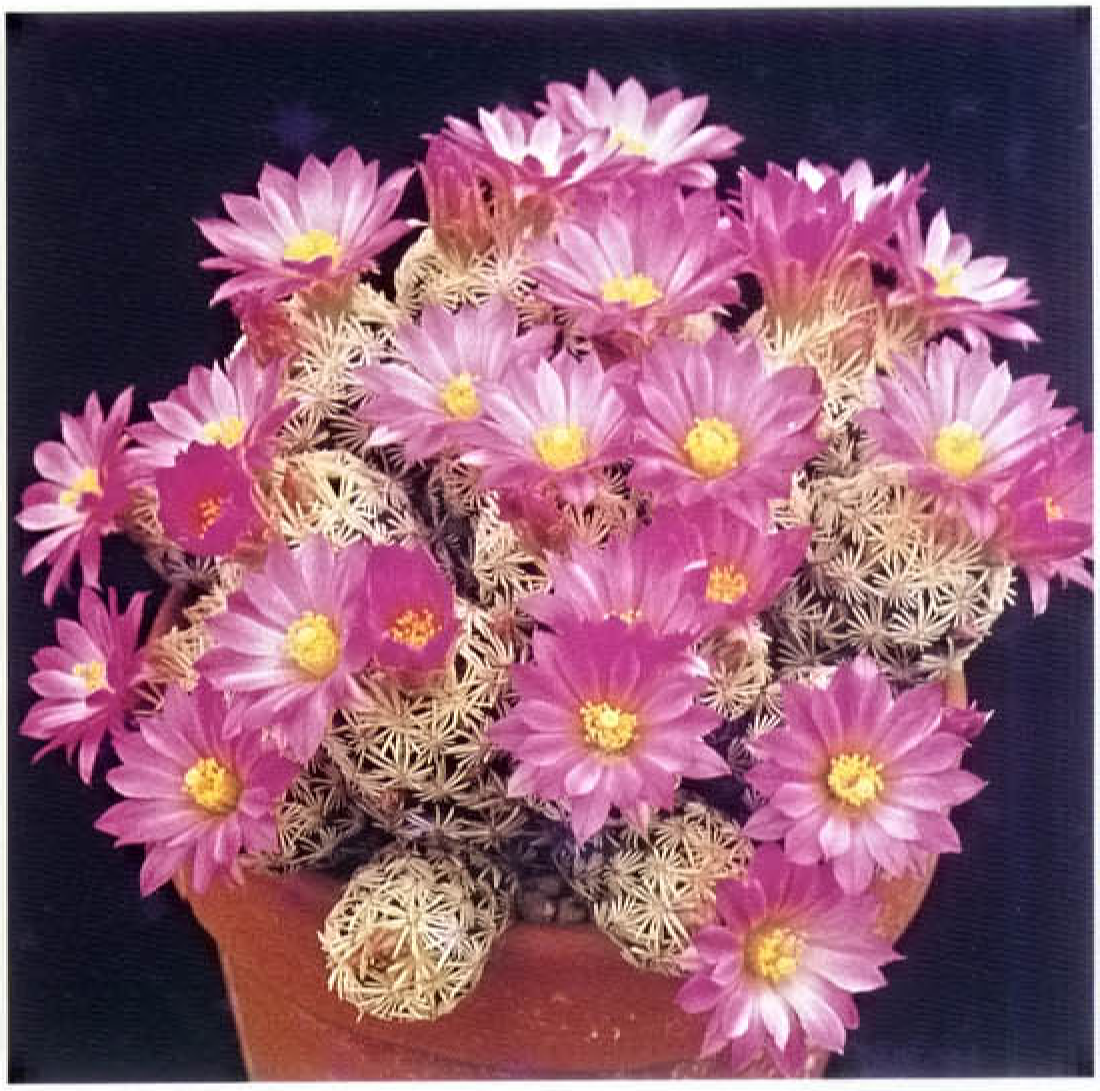




ESCOBARIA **LAREDOI** (Glass & Foster) N. P. Taylor

Syn: *Coryphantha laredoi* Glass & Foster; *Escobaria rigida* Backeb. (?)

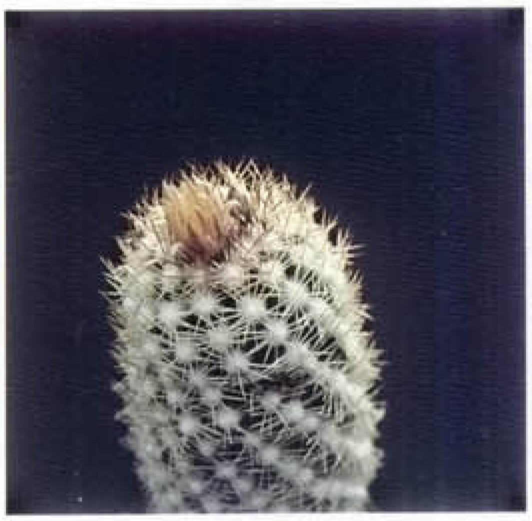
The stems are globose, forming clusters, and pale green in color. Individual stems are 1½–1¾in thick. The tubercles are ½in long and ⅕in thick with a woolly groove at the base. There are about 33 white, stiff, radial spines ⅕–½in long and four to five central spines ½–⅔in in length, similarly colored but with a yellowish base. Flowering by day in summer, the blooms are ⅔–¾in long, to ½in wide, with pinkish-tan outer segments and magenta inner petals. Requires sun; a calcareous cactus compost; minimum temperature 50°F. *Mexico (Coahuila).*



ESCOBARIA **MINIMA** (Baird) D. R. Hunt

Syn: *Coryphantha minima* Baird; *Coryphantha nellieae* Croiz.

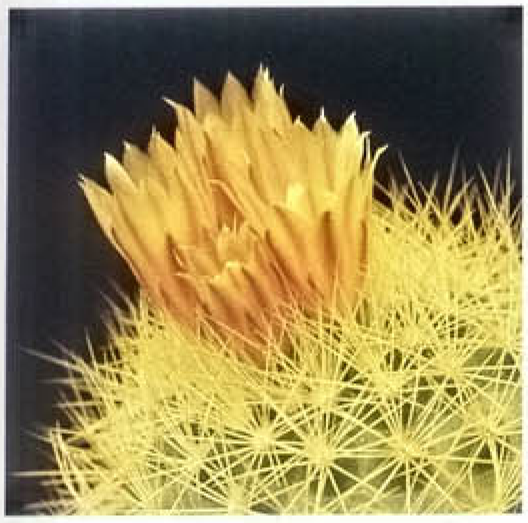
The dark-green stems are more or less oval, about 1in tall, ¾in wide, solitary or clustering. The tubercles are conical, 1/10in long, and the grooves bare. There are 13–15 radial spines about 1/10in long and three centrals about ¼in in length: these spines are pinkish, becoming gray. The plant is diurnal, flowering in summer, with blooms about ¾in long, to ½in in diameter, and rose pink in color. Requires slight shade; normal cactus compost; minimum temperature 50°F. *USA (Texas).*



ESCOBARIA **ROBBINSORUM** (W. M. Earle) D. R. Hunt

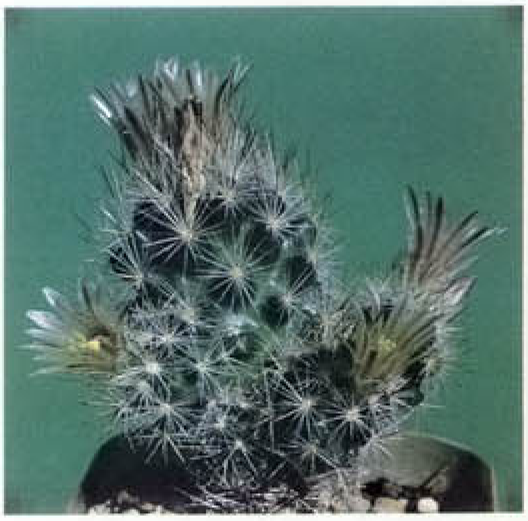
Syn: *Coryphantha robbinsorum* (W. M. Earle) Zimm.; *Cochiseia robbinsorum* W. M. Earle

A dark-green cylindrical-shaped plant ¾–2½in long, with tubercles ⅖in long, and ⅕in wide. Spines are white; 11–17 of these are radials, up to ⅔in long, with rarely one central up to ½in. The flowers, yellowish green with a brown center stripe, are around ¾in long, ⅖in wide, and are day flowering in the late spring and early summer. Careful watering is essential. Requires sun; normal cactus compost; minimum temperature 50°F. *USA (Arizona).*



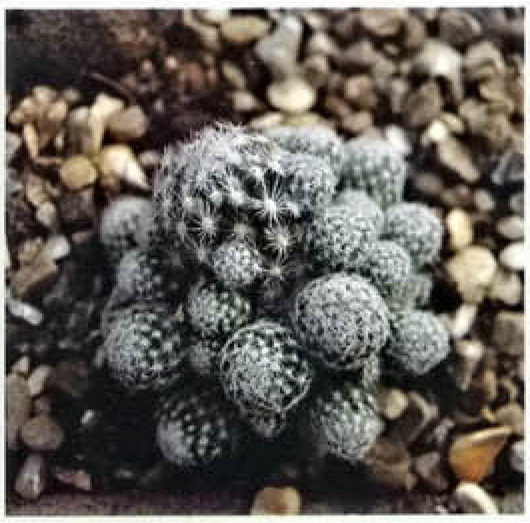
ESCOBARIA **ROSEANA** (Böed) Backeb.

An oval-shaped plant of bright green and up to 1½in high, 1in wide, with tubercles ⅓in long and broad. The areoles are yellow, bearing 15 pale yellow radial spines to ⅔in long, and four to six centrals, similarly colored. Flowering is in early summer, and is diurnal. The flowers are small; the inner petals are yellowish with a reddish midstripe, the outer segments are more reddish. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Coahuila).*



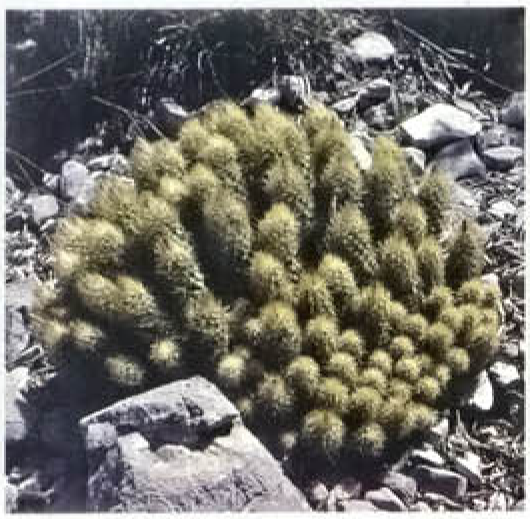
ESCOBARIA **RUNYONII** Br. & R.
Syn: *Coryphantha robertii* Berger

A free-clustering species comprising many grayish-green, more or less globose stems 1–2in long, with terete tubercles ⅕in in length and slightly grooved above. Radial spines are numerous and ⅕in long, and there are five to seven dark brownish-tipped centrals ¼in in length. Day flowering in mid-summer, the blooms are very pale purple with a darker midstripe on all the petals. Requires bright light; normal cactus compost; minimum temperature 50°F. *USA (New Mexico, Texas).*



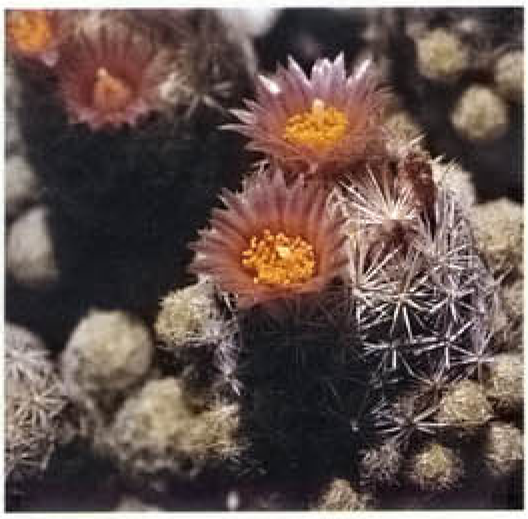
ESCOBARIA **SNEEDII var. SNEEDII** Br. & R.
Syn: *Coryphantha sneedii* Berger

A clustering species with small, rather cylindrical stems 2½in high, ½–¾in thick. These are covered with numerous white spines about ¼in long which are at first reddish, then change color. Day flowering, in summer, the flowers are small, and pale pinkish. Needs good light; normal cactus compost; minimum temperature 50°F. *USA (Texas).*



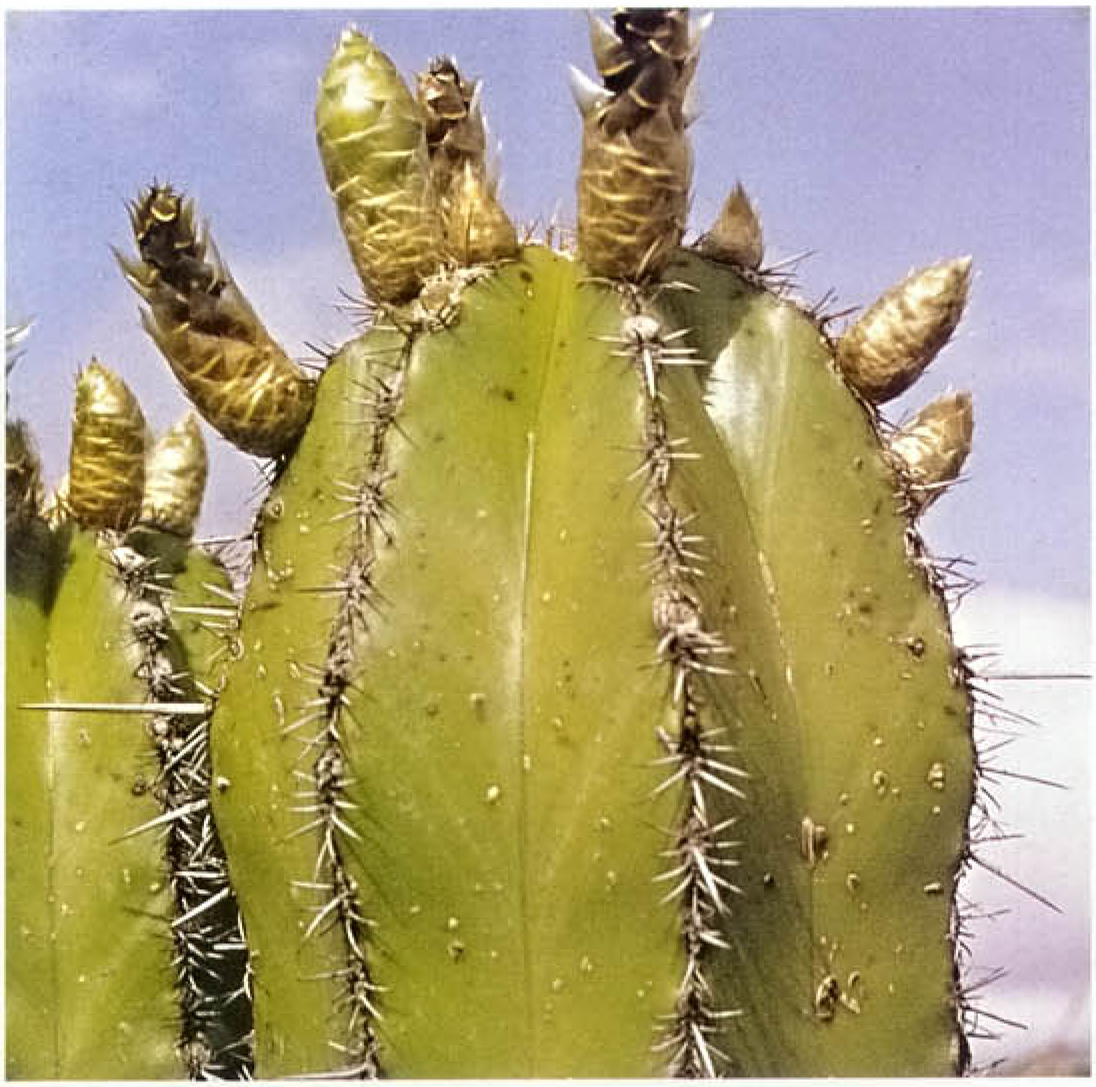
ESCOBARIA **ROSEANA var. NOVA**

This is a grouping plant, collected by A. Lau near Saltillo in Coahuila, Mexico. It is a densely clustering variety with offsets arising from around the base, and has about 12 tubercled ribs, spirally arranged and bearing many yellowish-brown spines. The flowers are unknown. Requirements are the same as for the species. *Mexico (Coahuila).*



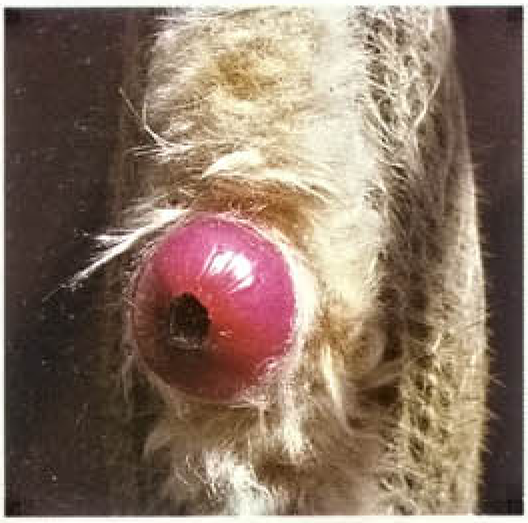
ESCOBARIA **SNEEDII** Br. & R. **var. LEEI** (Rose ex Böed.) D. R. Hunt
Syn: *Escobaria leei* Rose ex Böed.; *Coryphantha sneedii* var. *leei* (Rose) L. Benson

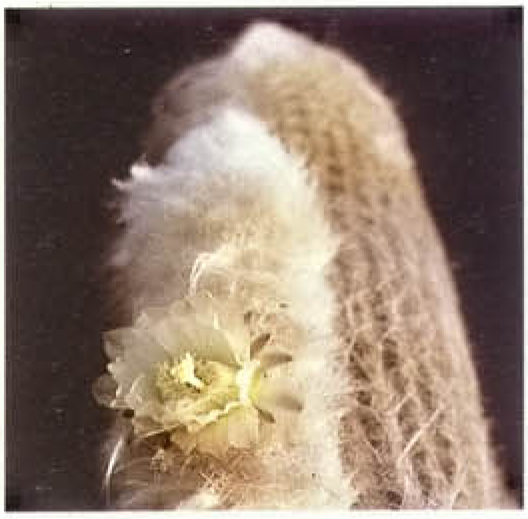
Miniature to medium-sized plants, which cluster freely, with closely set tubercles. Areoles bear many grayish-white ⅒in long spines. The flowers are a dull brownish pink with a deeper pinkish median line to the petals. Flowering in early summer, they are diurnal. Requires sun; normal cactus compost with limestone chippings added; minimum temperature 50°F. *USA (New Mexico).*



ESCONTRIA **CHIOTILLA** (Weber) Br. & R.

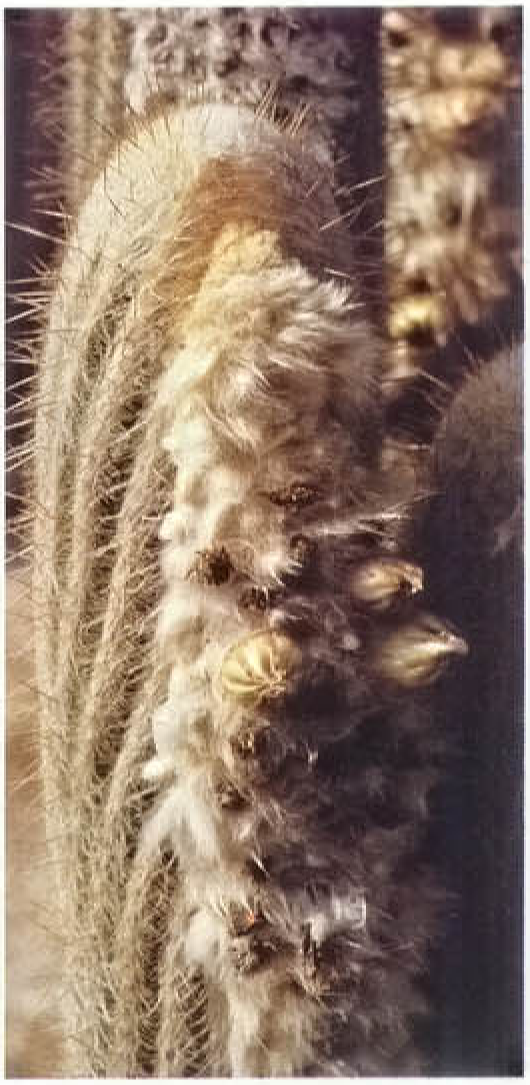
A tree-like, columnar species reaching 20–23ft high in its habitat, with the trunk often up to 1ft 3in in diameter. The branches are dark green with seven to eight prominently crenate ribs and grayish woolly areoles about ½in long. Spines are yellowish brown, consisting of 10–15 radials to ½in long and one, rarely more, central spine 2–3in in length. It is day flowering, in midsummer; the flowers are yellow, with brownish outer segments, 1–1½in long, and funnel-shaped. Requires sun; normal cactus compost; minimum temperature 55°F. *Guatemala, Mexico (Puebla).*





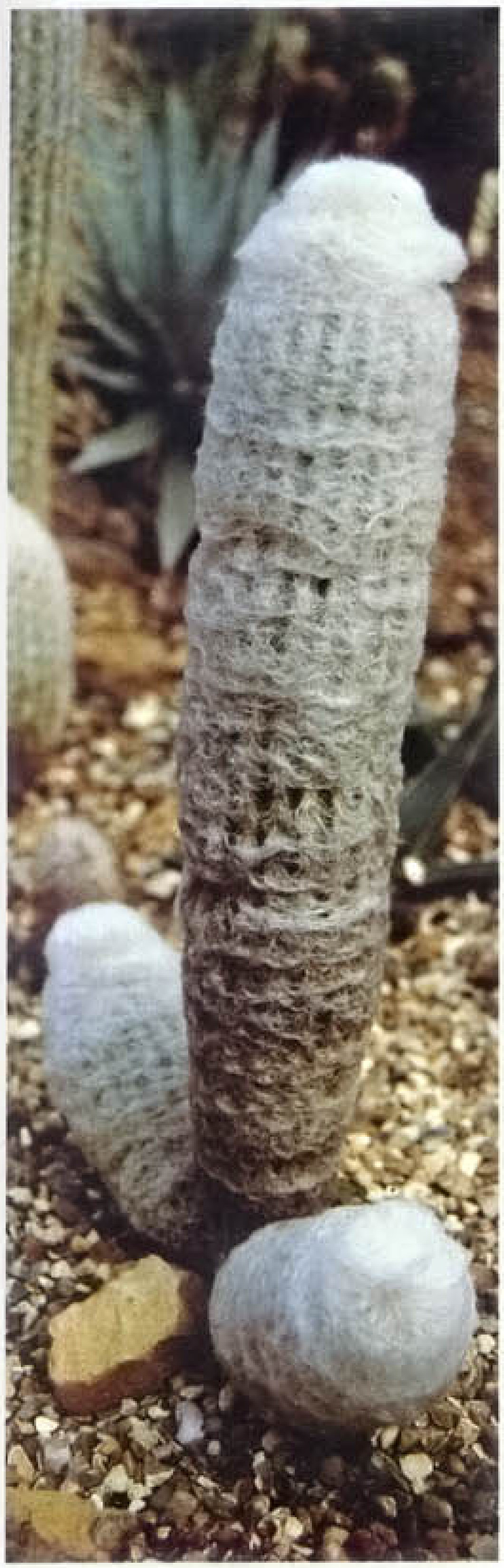
ESPOSTOA **LANATA** (HBK.) Br. & R.

A tree-like, columnar plant to about 13ft high and 6in thick in its own habitat, in cultivation 3ft–4ft 9in tall, 2½–3in thick. It has 20–30 ribs with white areoles set about ⅕in apart. The spines are white or pale yellowish, often red and very short. The central spines are up to 3¼in long, and whitish hairs cover the green stem. Flowers are nocturnal, in summer from a lateral cephalium; they are white, 2–2½in long. The large, red, berry-like fruits are 1½–2½in in diameter. Needs full sun; normal cactus compost; minimum temperature 50°F. *Northern Peru.*



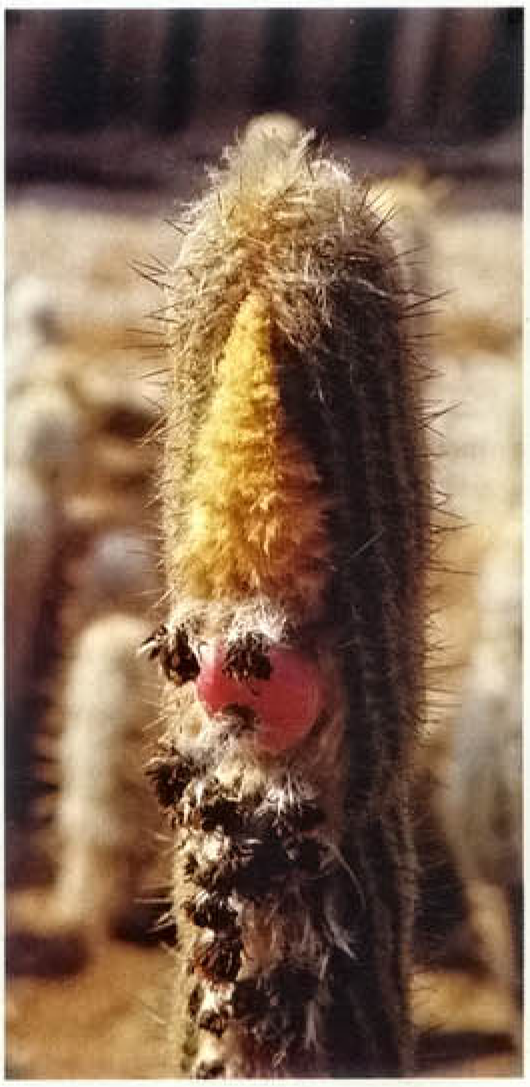
ESPOSTOA **MELANOSTELE** Vaup.

A tall, grayish-green columnar plant to about 6½ft high, 4in in diameter. It has about 25 ribs with fairly close-set areoles, bearing numerous golden-yellow spines about ⅕in long. Flowers appear through the pseudocephalium which, is very woolly and has longer yellow spines to 1½in in length. The blooms, which are nocturnal, occurring in summer, are white, 2¼in long. Requires bright light; slightly calcareous cactus compost; minimum temperature 50°F. *Peru (Chosica).*



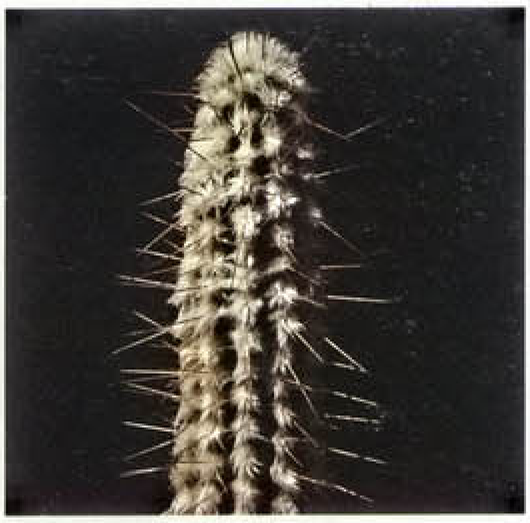
ESPOSTOA **NANA** Ritter

Probably a variety of *E. melanostele*. A short columnar species to 4ft 9in high, with 3¼–3½in thick stems, branching from the base. With many closely set ribs, the whitish areoles have about 30 very pale yellowish radial spines about ⅓in long and one slightly longer central, and the whole plant is densely coated with white woolly hairs, especially at the tips of the stems. The flowers are nocturnal, appearing in summer from a whitish cephalium; they are whitish, about 1½–2in long. Needs careful watering at all times; bright light; calcareous cactus compost; minimum temperature 55°F. *Peru (Ancash).*



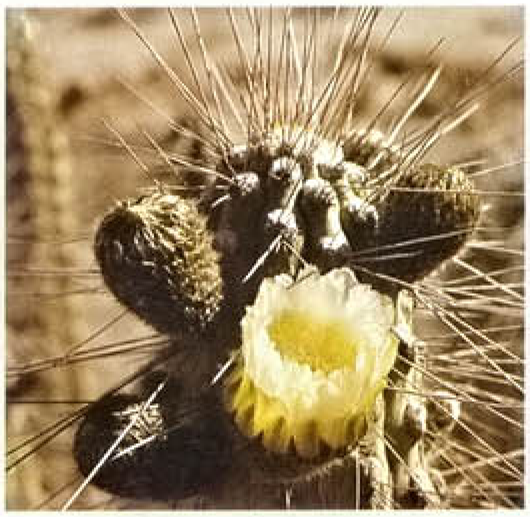
ESPOSTOA **RITTERI** Buin.

Dark-green columnar plants attaining 6½–13ft high and 2½–3in thick, having 18–24 ribs and white roundish areoles. The spines are about 25 in number, very fine, reddish brown or yellowish white and from ⅓–¾in in length. Nocturnal flowers appear in summer from a whitish-yellow cephalium. These are 2½–3¼in long, 2½in wide. Requires sunlight; normal cactus compost; minimum temperature 55°F. *Peru (Amazonas).*



EULYCHNIA **IQUIQUENSIS** (K. Sch.) Br. & R.

A tall, columnar, almost tree-like plant up to 23ft high in its habitat, the stem up to 10in in diameter. Gray-green in color, it has 12–15 rounded, warty ribs, narrowly furrowed between. The white woolly areoles are closely set, bearing 12–15 grayish spines about ½in long, and one or two to 4¾in in length. Flowers are white, 2½–3in long, arising from the top of the stem in summer, and are diurnal. Needs sun; normal cactus compost; minimum temperature 50°F. *Chile (Atacama).*



EULYCHNIA **SAINT-PIEANA** Ritter

A columnar, tree-like plant 6½–13ft high in its habitat. The stems are 3–4in thick, dark green, with 10–15 ribs. Areoles are very obvious with grayish felt and long white woolly hairs. There are eight to twelve radial spines and one central. These are dark brown, becoming gray, and varying in length from 1–4in. Day flowering in mid-summer, the flowers are 2½–3in long, white sometimes with a pinkish midstripe to the petals, and opening to about 2½in in diameter. Needs sun; normal cactus compost; minimum temperature 50°F. *Chile (Atacama).*

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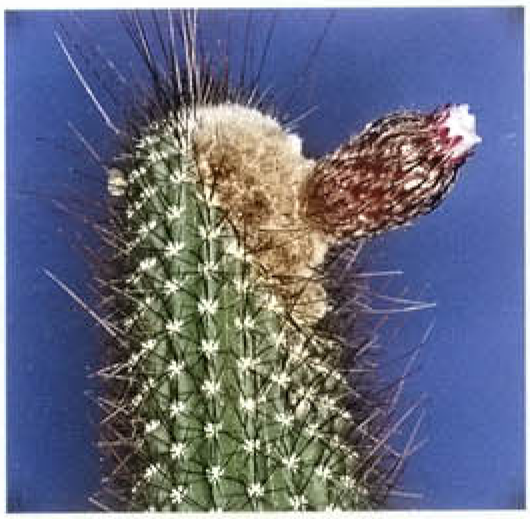

FACHEIROA Br. & R. **sp. nova**

A tall-growing, columnar plant discovered by Dr Werner Rauh. It produces few branches, which are about 3in in diameter. The ribs number about 18 and the areoles are set well apart, with particularly attractive brown spination. The brownish-white cephalium composed of wool and bristles extends downward from the top with small pinkish-white flowers protruding from red-scaled tubes. Temperatures are best maintained at a minimum 59°F. *Brazil (Bahia).*

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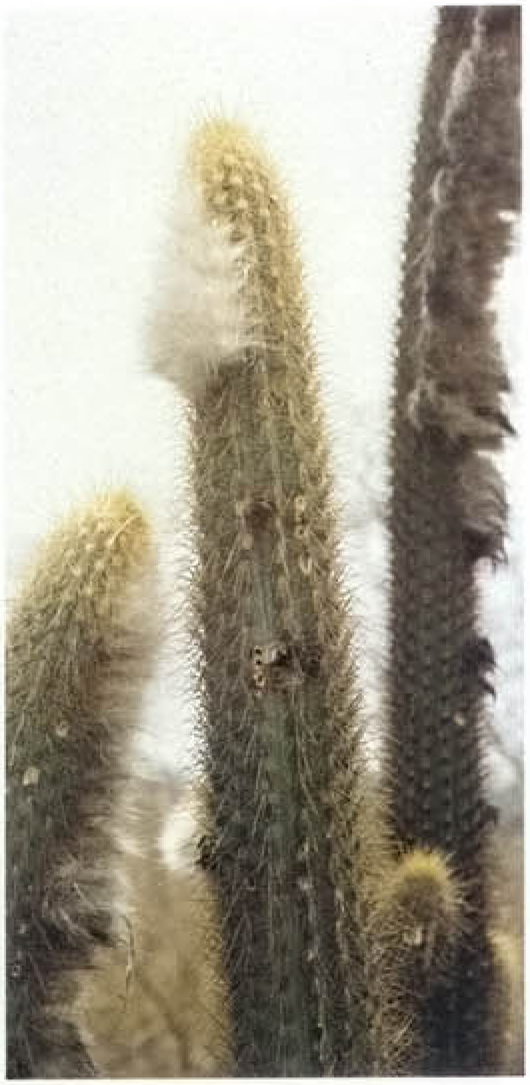

FACHEIROA Br. & R. **sp. nova**

A further introduction of Dr Werner Rauh's. A much-branching, columnar plant with about 15 ribs. The areoles bear many yellowish-brown spines, both radials and centrals. The cephalium consists of much white wool which forms laterally from near the top of the stems. Flowers are not known. *Brazil.*

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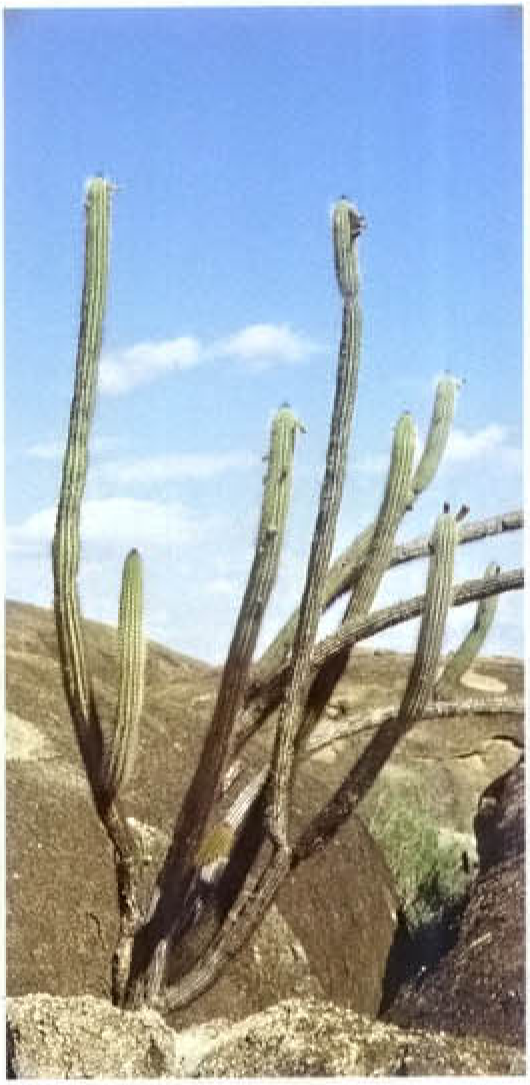

FACHEIROA **DEINACANTHUS** Rauh

A comparatively recent discovery, the tree-like growth very much resembling another species, *F. ulei* (Gürke) Werd. There are about 15 grayish-green ribs with yellowish-brown spines and almost tubular flowers with short inner perianth segments. As yet, the plant is not known in cultivation. *Brazil.*

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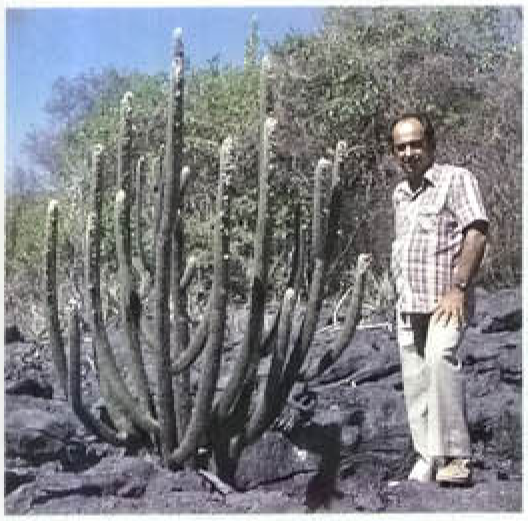
FACHEIROA



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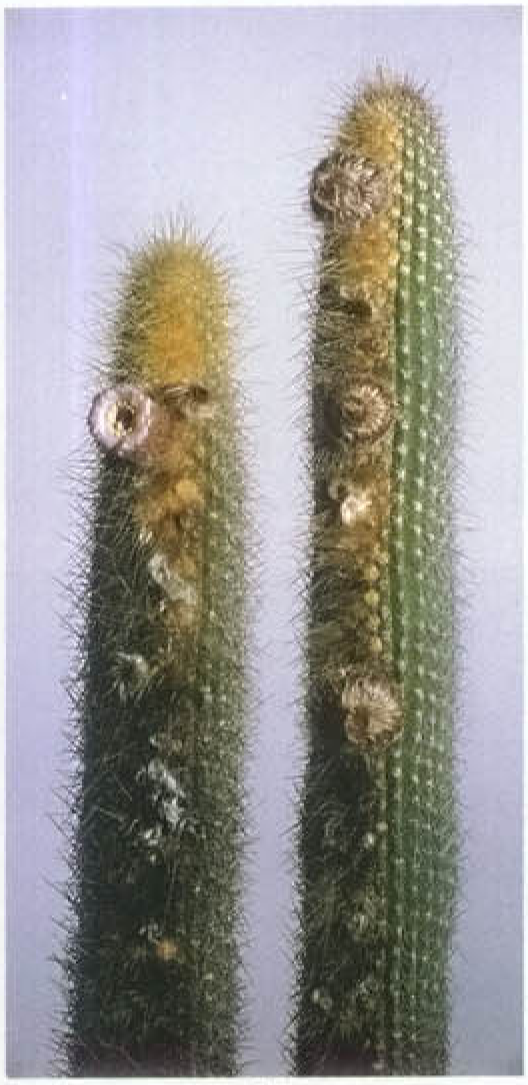

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FACHEIROA **ESTEVESII** Braun

A discovery of E. Esteves Pereira (pictured) for whom it was named. A much-branching plant to 6½ft or more in height with 20 or more ribs and golden-yellow spines which later become grayish yellow, and a long lateral cephalium. The flowers are pinkish, often appearing from the stems with or without a cephalium. Not yet known in cultivation. *Brazil (Bahia).*

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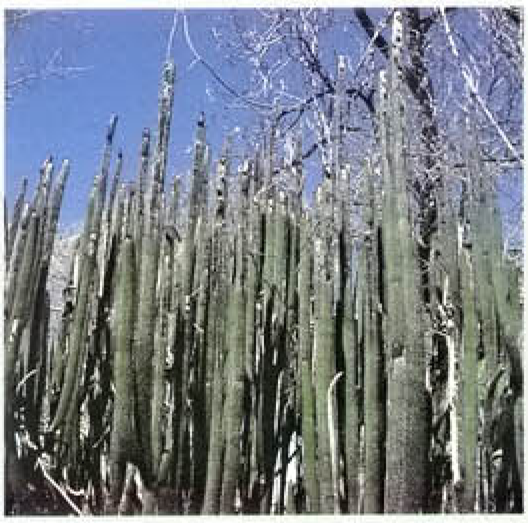

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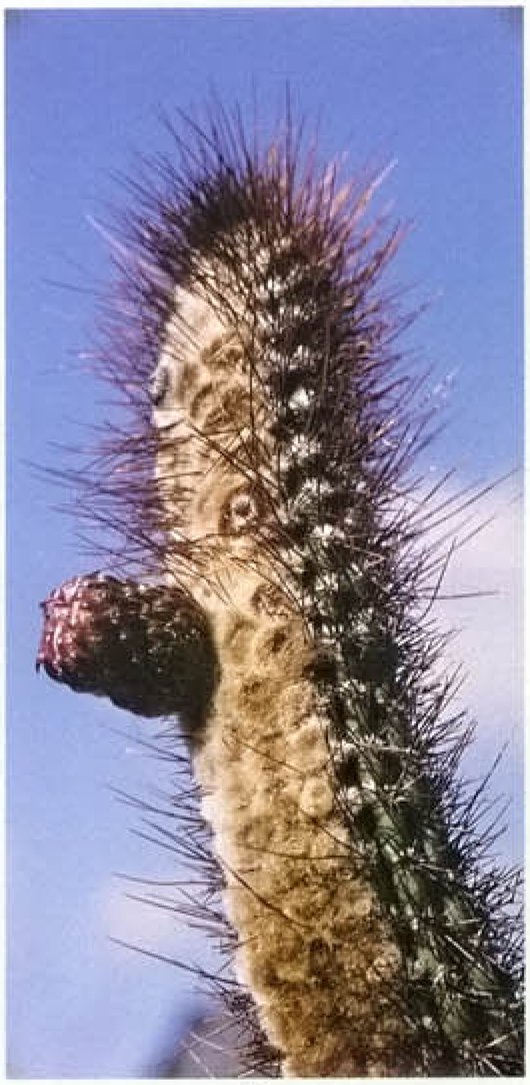

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FACHEIROA **TENEBROSA** Braun & Esteves

Erect columnar plants with many branches, sometimes up to 200 on one plant! There are up to 20 or more ribs and both radial and central spines, which are brownish black. Flowers are borne on the cephalium, the red tube more or less naked; flower color is unknown, but is probably white. A rare species, not as yet known in cultivation. *Brazil (South-western Bahia).*

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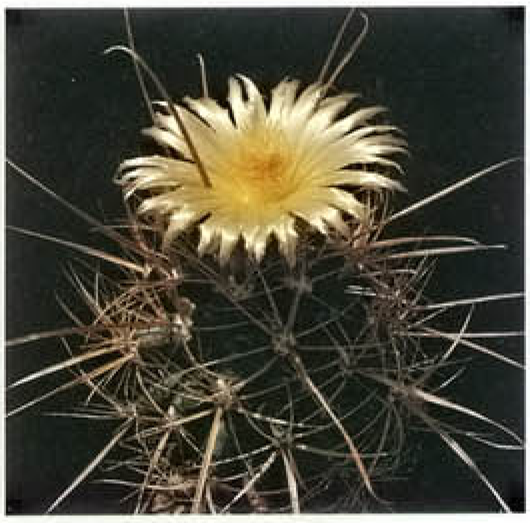
× FEROBERGIA



× FEROBERGIA **'Gil Tegelberg'** Glass

A rather fascinating hybrid between a species of *Ferocactus* and *Leuchtenbergia principis* produced by Gil Tegelberg, a prominent and well-known American cactus authority, and subsequently named for him. The plants are about 4¾in in diameter, the stem bearing elongated tubercles, with long, spreading spines and terminal silky yellow flowers which are diurnal, appearing in summer. Flourishes in sunny locations; normal cactus compost; minimum temperature 50°F.

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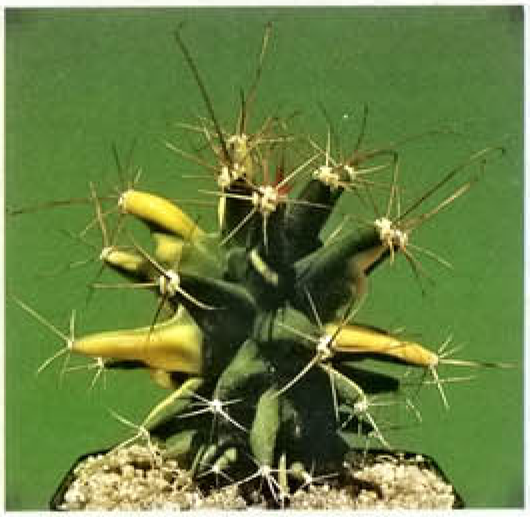

× FEROBERGIA **'Gil Tegelberg'** Glass

Another product of the same two genera: in the former illustration the *Ferocactus* parentage is dominant. With this unflowered plant, that of *Leuchtenbergia* is obvious.

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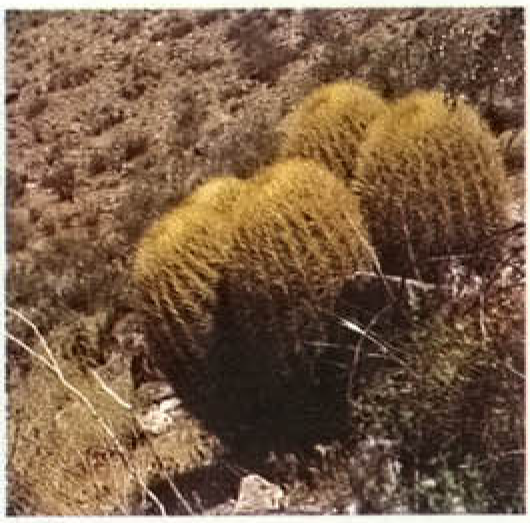

FEROCACTUS ACANTHODES (Lem.) Br. & R.
Syn: *Echinocactus acanthodes* Lem.

Plants are solitary, rarely offsetting. The oval stem becomes columnar and up to 10ft tall, 2ft 7in in diameter, and there are 13–27 glaucous-green ribs. Areoles, set about ¾in apart, are up to ½in long and bear nine to thirteen reddish radial spines 1½in long, and one to four flat centrals to 4¾in in length. Flowers are diurnal in summer, yellow or orange, about 2in long. Needs a bright sunny location; a porous enriched compost; minimum temperature 50°F. *Mexico (Baja California).*

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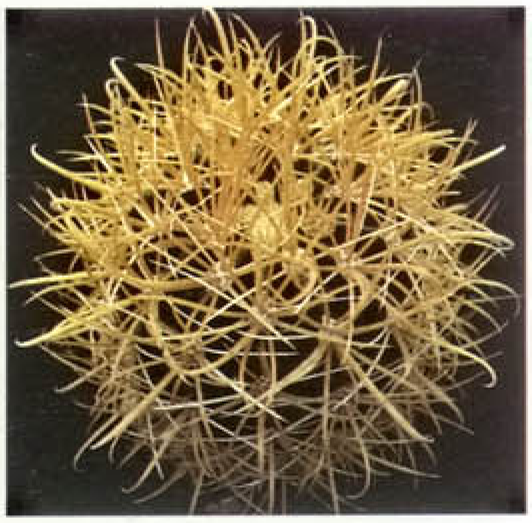

FEROCACTUS CHRYSACANTHUS (Orc.) Br. & R.
Syn: *Echinocactus chrysanthus* Orc.

A globose to cylindrical plant up to about 3ft high, 1ft–1ft 3in in diameter, and dark green in color. There are 13–22 tubercled ribs and the areoles carry four to six slender white radial spines and four to ten curved yellow or red centrals 2–3in long. Flowers are diurnal, in summer, up to 1in long and to 2in across, the inner petals yellow with jagged edges, and outer petals pale brownish pink. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Baja California).*

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FEROCACTUS DIGUETII (Weber) Br. & R.
Syn: *Echinocactus diguetii* Weber

A large species eventually reaching to 13ft tall, 2ft 7in in diameter, and more or less globular as a young plant. The stems are dark green with about 34 ribs when fully grown, the areoles bearing six to seven reddish-yellow radial spines and one central, slightly curved, to 3in long. Flowers, diurnal in summer, are funnel-shaped, to 3in long, with yellow inner petals and reddish-brown outer ones. Requires a sunny position; normal cactus compost; minimum temperature 50°F. *Mexico (Santa Catalina Island).*

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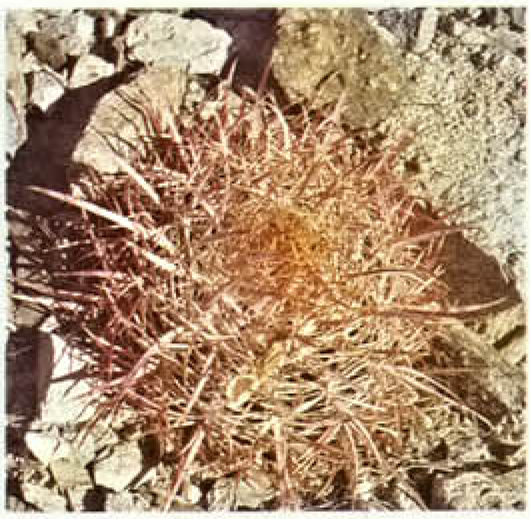

FEROCACTUS ACANTHODES var. LECONTEI (Engelm.) Lindsay

A globular plant, later becoming cylindrical, up to 6½ft or more high with 20–30 undulating ribs, dark to grayish green. The large areoles, set ¾–1in apart, have short yellowish-brown wool. The whitish to reddish spines, up to 2½in long, are most variable: some of the radials are thread-like and bristly, while others are flexible, partially flattened, and curved but not hooked. Day flowering, and diurnal, the flowers are yellow, about 1½in long. Requirements are the same as for the species. *USA (California, Nevada, Arizona).*

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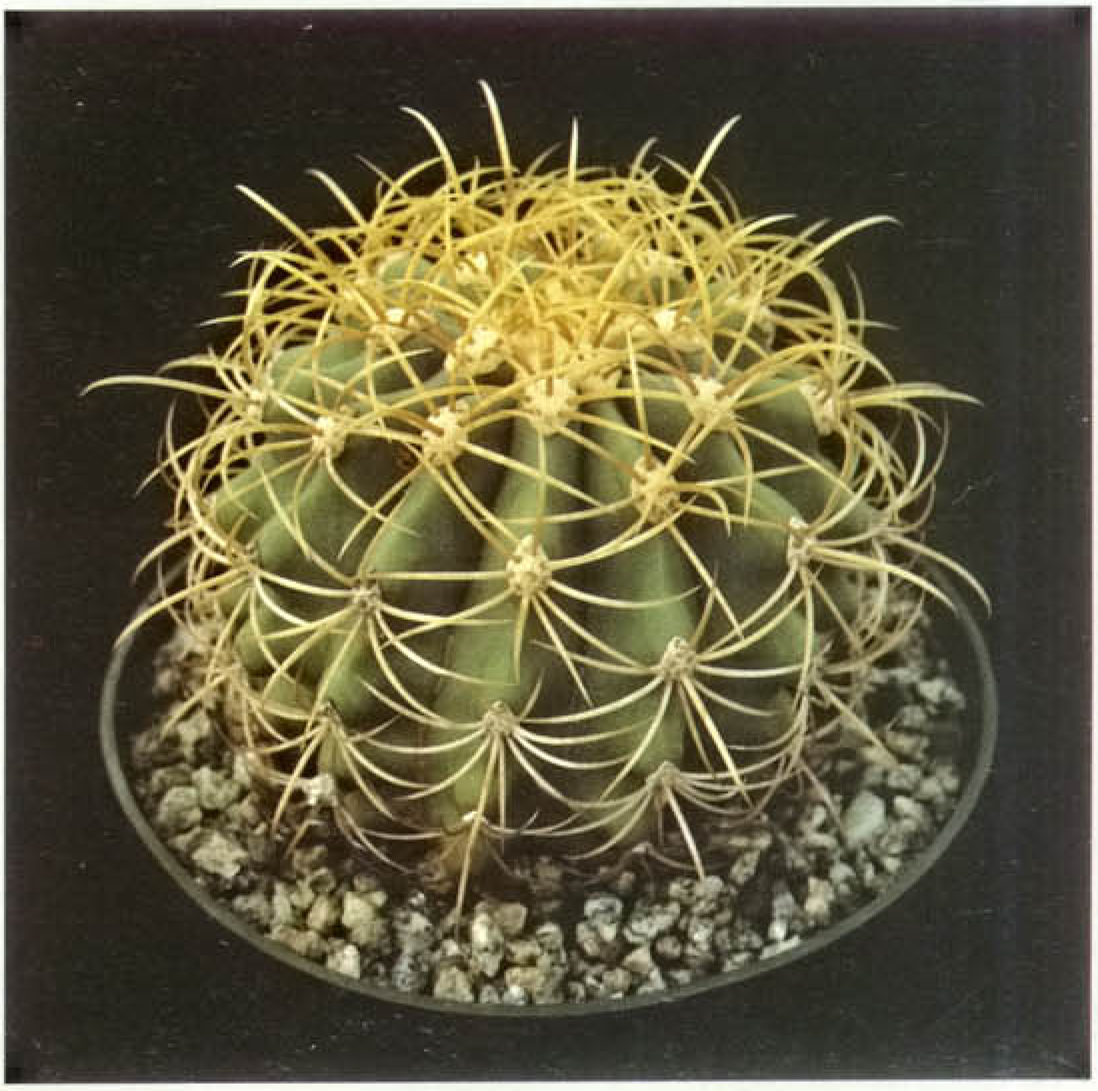

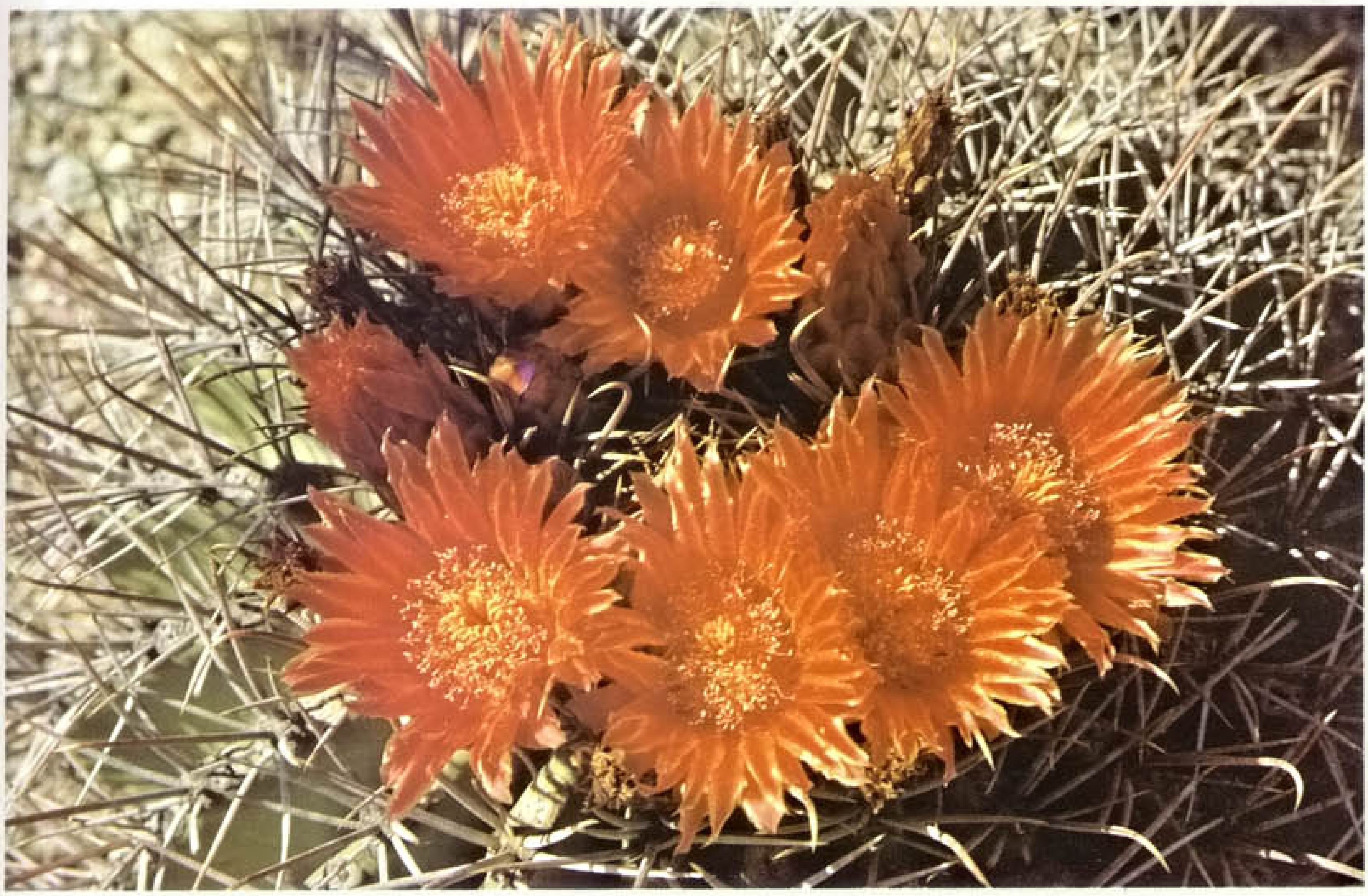

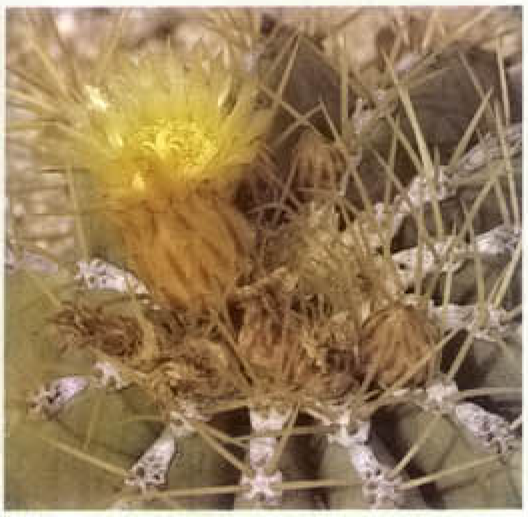

FEROCACTUS **ECHIDNE** (DC.) Br. & R.
Syn: *Echinocactus echidne* DC.

A grayish-green, solitary, rarely grouping species. The globular stem is up to 8in in diameter, and there are 14–16 acute-edged ribs, often wavy, with areoles set ¾–1in apart. The five to seven radial spines are yellow, becoming grayish, and there is one longer recurved central. Flowers are diurnal in mid-summer, about 1in long and slightly more across, with many glossy yellow-toothed petals. Needs full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Hidalgo).*

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FEROCACTUS **EMORYI** (Engelm.) Backeb.
Syn: *Ferocactus covillei* (Br. & R.) Berger; *Echinocactus emoryi* Engelm.

A large globular, later cylindrical, plant up to 4ft 9in tall and 2ft thick. It has 30–32 ribs with large oval brown woolly areoles, set ¾–1in apart and bearing five to eight white or reddish radial spines up to 2½in long, and one flat, hooked central to 3¼in in length. Day flowering in summer, the flowers are centered toward the crown of the plant; these are red with yellow-tipped petals, or entirely yellow, 2½–3in long. Requires a fully sunny position; slightly calcareous porous cactus compost; minimum temperature 50°F. *Mexico (Sonora), USA (Arizona).*

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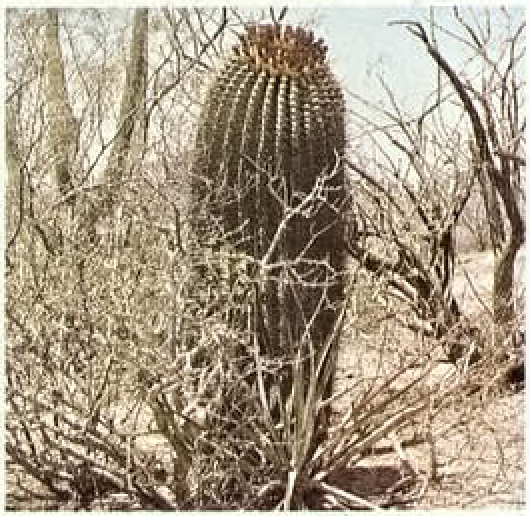

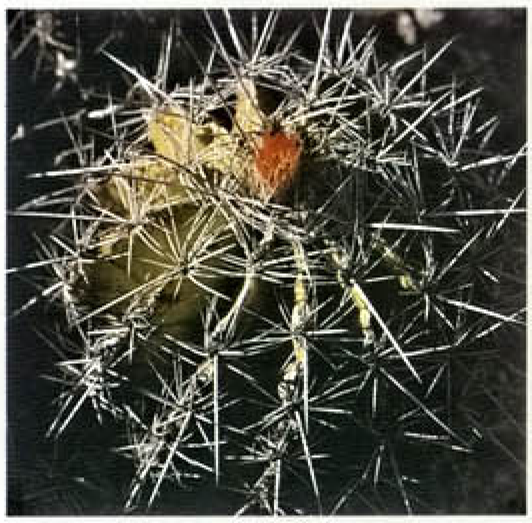

FEROCACTUS **FLAVOVIRENS** (Scheidw.) Br. & R.

Syn: *Echinocactus flavovirens* Scheidw.

Dull-green globular, short-columnar plants up to 1ft 3in high, starting as solitary but later offsetting to form groups. The grayish areoles are set about ¾in apart with about 14 gray, spreading radial spines up to ¾in long and four centrals, the lowest of which is up to 3¼in in length. Flowers are diurnal, in summer, produced at the top of the plant, and are about 1in long, funnel-shaped, and yellowish red. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Puebla, Tehuacan).*

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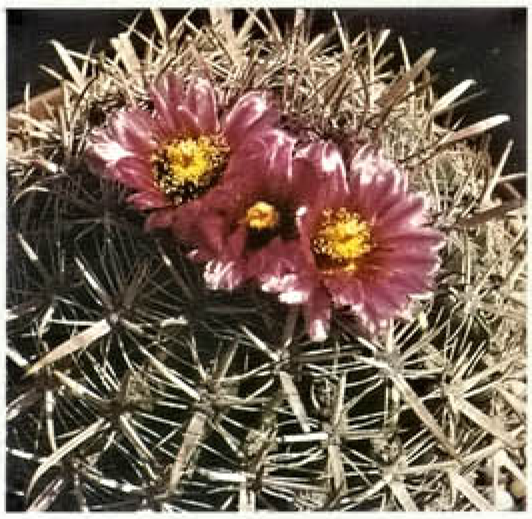

FEROCACTUS **FORDII** (Orc.) Br. & R.

Syn: *Echinocactus fordii* Orc.

Large globular plants of grayish green, up to 1ft 3in high, and slightly depressed in the center. About 21 ribs have gray woolly areoles set at ¾in intervals bearing about 15 white, spreading radial spines and four centrals, one hooked, to 1½in long. The flowers are diurnal, in summer, and are pink, up to 1½in long. Needs really good light; normal cactus compost; minimum temperature 55°F. *Mexico (Baja).*

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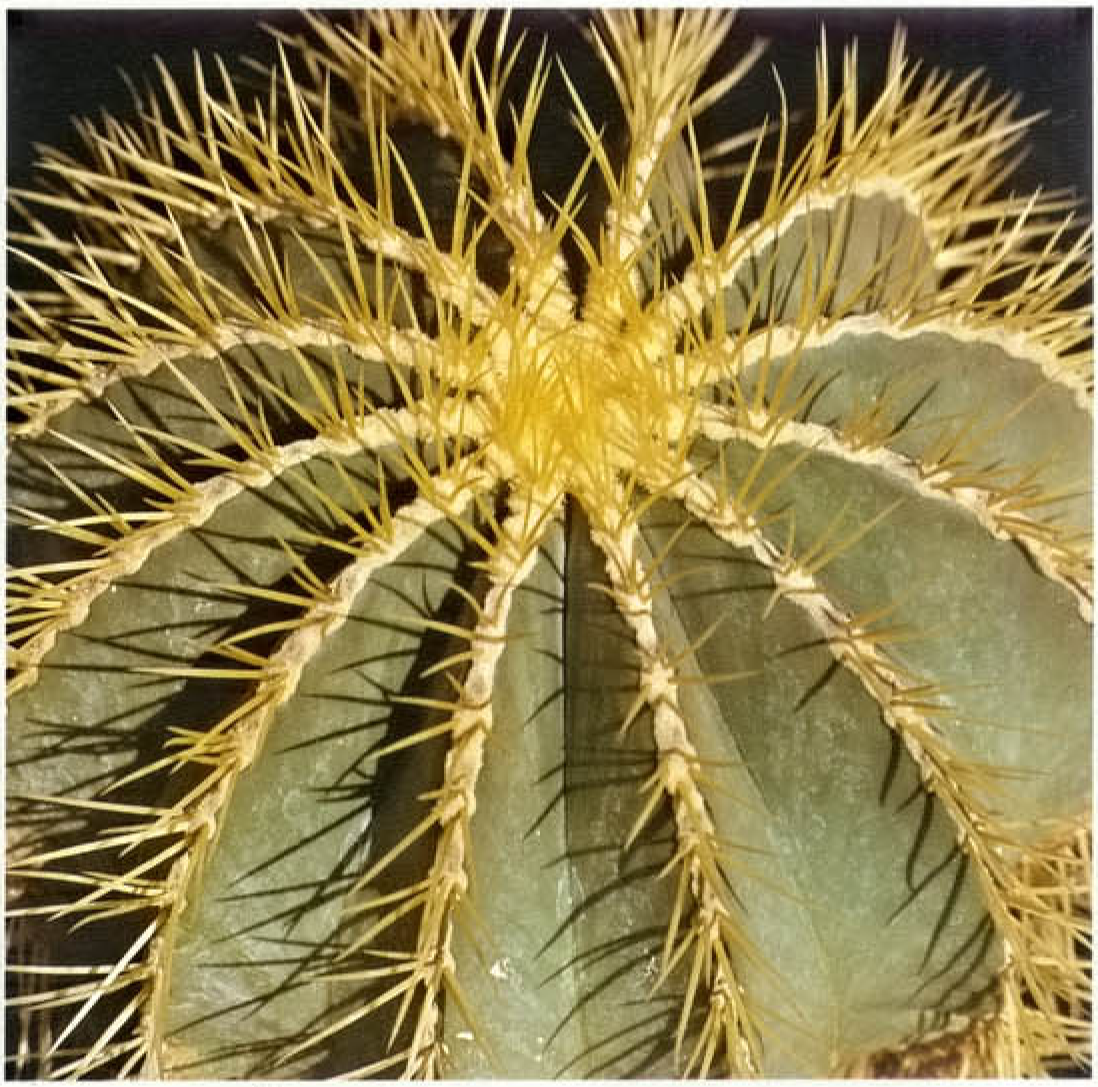

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FEROCACTUS **GLAUCESCENS** (DC.) Br. & R.

Syn: *Echinocactus glaucescens* DC.

A solitary, globular plant with an attractive bluish-green body which becomes slightly elongated to about 1ft 3in high, 1–1½ft in diameter. There are 11–15 ribs, straight but deeply grooved between, and the closely set white woolly areoles bear six to seven yellow radial spines, 1–1½in long, and one central which is often absent. Flowers are glossy yellow, 1–1½in long, and appear by day in summer. Requires bright sunlight; normal cactus compost; minimum temperature 50°F. *Mexico (Central and Eastern).*

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FEROCACTUS **GRACILIS** Gat.

A globular to cylindrical plant, reaching to 4ft 9in high in its habitat, 1ft in diameter, but usually globular in cultivation. There are 24 ribs and the elliptical-shaped areoles bear five to six reddish-brown radial spines, 1–1½in long, and seven to thirteen centrals, mostly longer. Summer flowering, the plant is diurnal, with golden-yellow flowers, the petals usually with a reddish mid-stripe. Needs bright light, which is essential; normal cactus compost; minimum temperature 50°F. *Mexico.*

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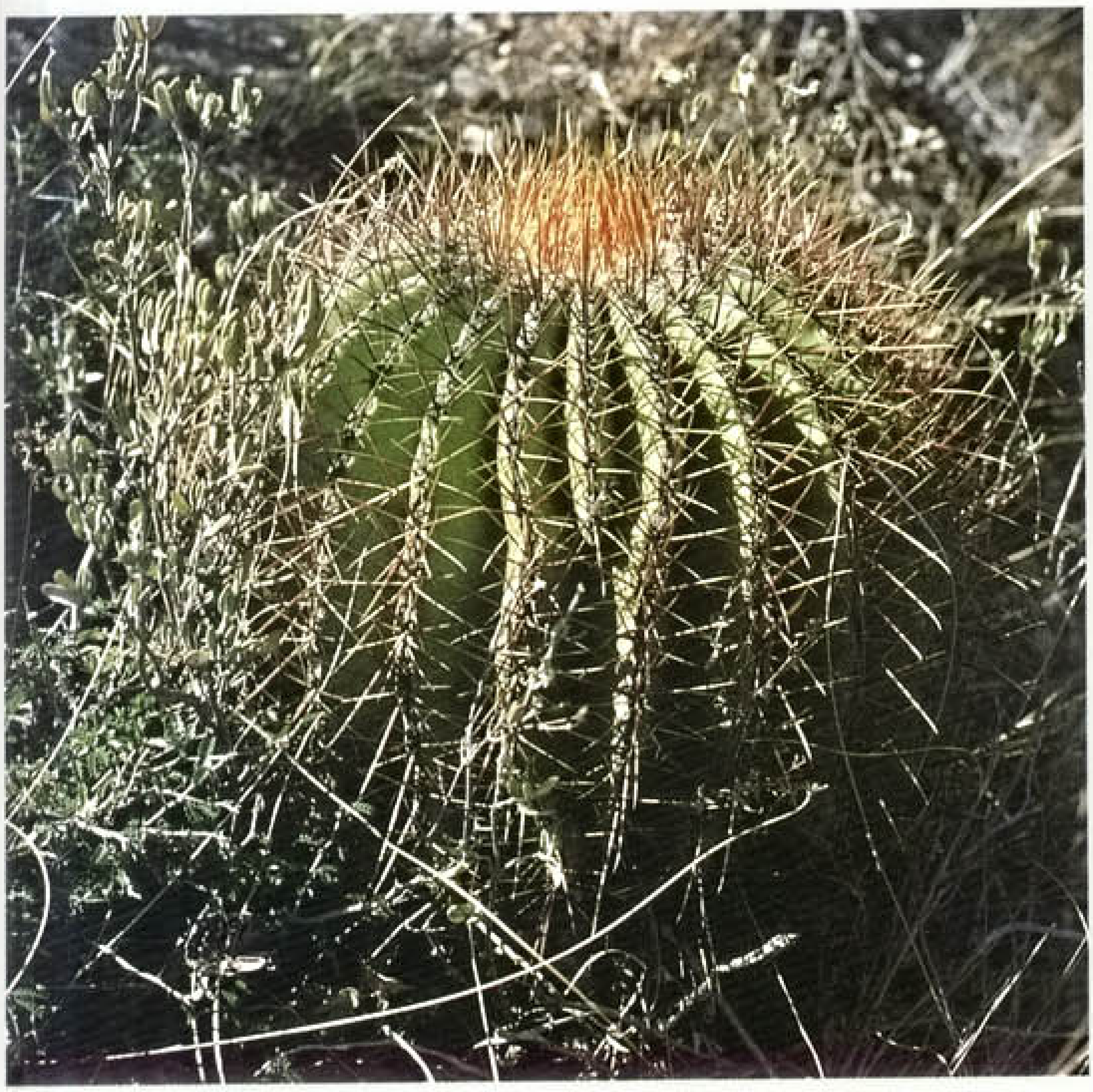

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FEROCACTUS **HAEMATACANTHUS**
(Salm-Dyck) Borg
Syn: *Ferocactus stainesii* (Hook.) Br. & R. var. *haematacanthus* (Salm-Dyck) Backeb.

The plants are globose to cylindrical, up to 3ft or more tall in the wild and 14in or more thick. They are deep green with 13–27 prominent ribs and the areoles are about 1½in apart. These bear spines in two series, the six reddish radials with whitish tips (the two laterals white only), and ¾–1⅓in long. Day flowering in summer, the flowers are funnel-shaped, about 3in long and wide and rose purple in color. Requires full sun; slightly calcareous cactus compost; minimum temperature 50°F. *Mexico (Vera Cruz).*

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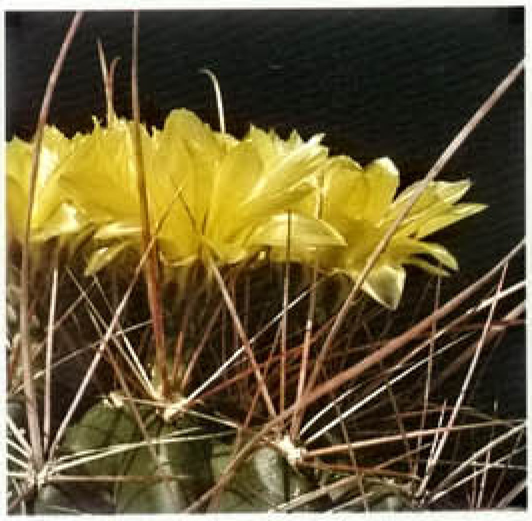

FEROCACTUS **HAMATACANTHUS**
(Mühlpf.) Br. & R.
Syn: *Hamatocactus hamatacanthus* (Mühlpf.) Br. & R.

A globular species becoming elongated, up to 2ft tall and 1ft in diameter with 13-18 broad ribs. The areoles bear six to twelve brownish-red radial spines and four centrals, the lowest hooked and up to 4¾in long. Flowers are diurnal, appearing in summer; they are pale yellow, often with a reddish throat, to 3in long. Requires bright light; normal cactus compost; minimum temperature 45°F. *Mexico (Northern), USA (Texas).*

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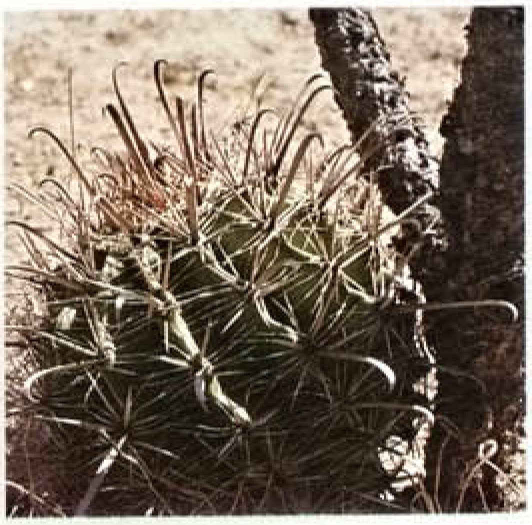

FEROCACTUS **HERRERAE** G. Ort.

A globular plant, becoming cylindrical to about 6½ft high, and a grayish dull green. It has 13–14 slightly wavy ribs with long white areoles bearing eight to ten whitish radial spines and one hooked central, ¾–1in long. The flowers, diurnal and appearing in summer, are funnel-shaped, 3in long and 3in across, reddish with yellowish edges. Requires a sunny position; normal cactus compost; minimum temperature 50°F. *Mexico (Sonora and Sinaloa).*

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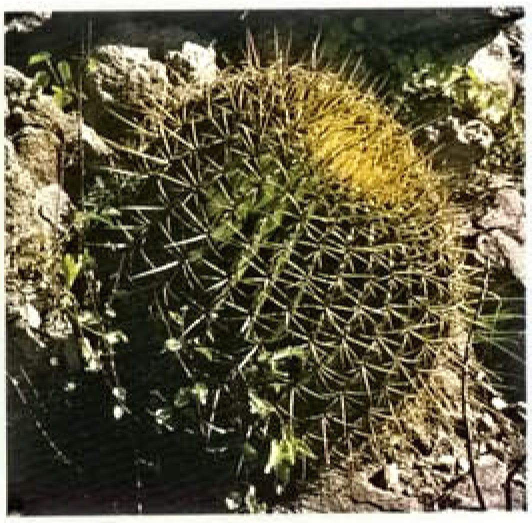

FEROCACTUS **HISTRIX** (DC.) Linds.
Syn: *Echinocactus histrix* DC.

Globular plants, often elongating to about 2ft 4in tall, they are dull green in color. Ribs number about 24 with areoles carrying seven to twelve thin, brownish radials, more or less spreading, and three to four centrals to 2½in in length. Flowers are diurnal, in mid-summer, and are bright yellow, and up to 1⅓in long. Requires very bright light; slightly calcareous compost; minimum temperature 55°F. *Mexico (Central and Eastern).*

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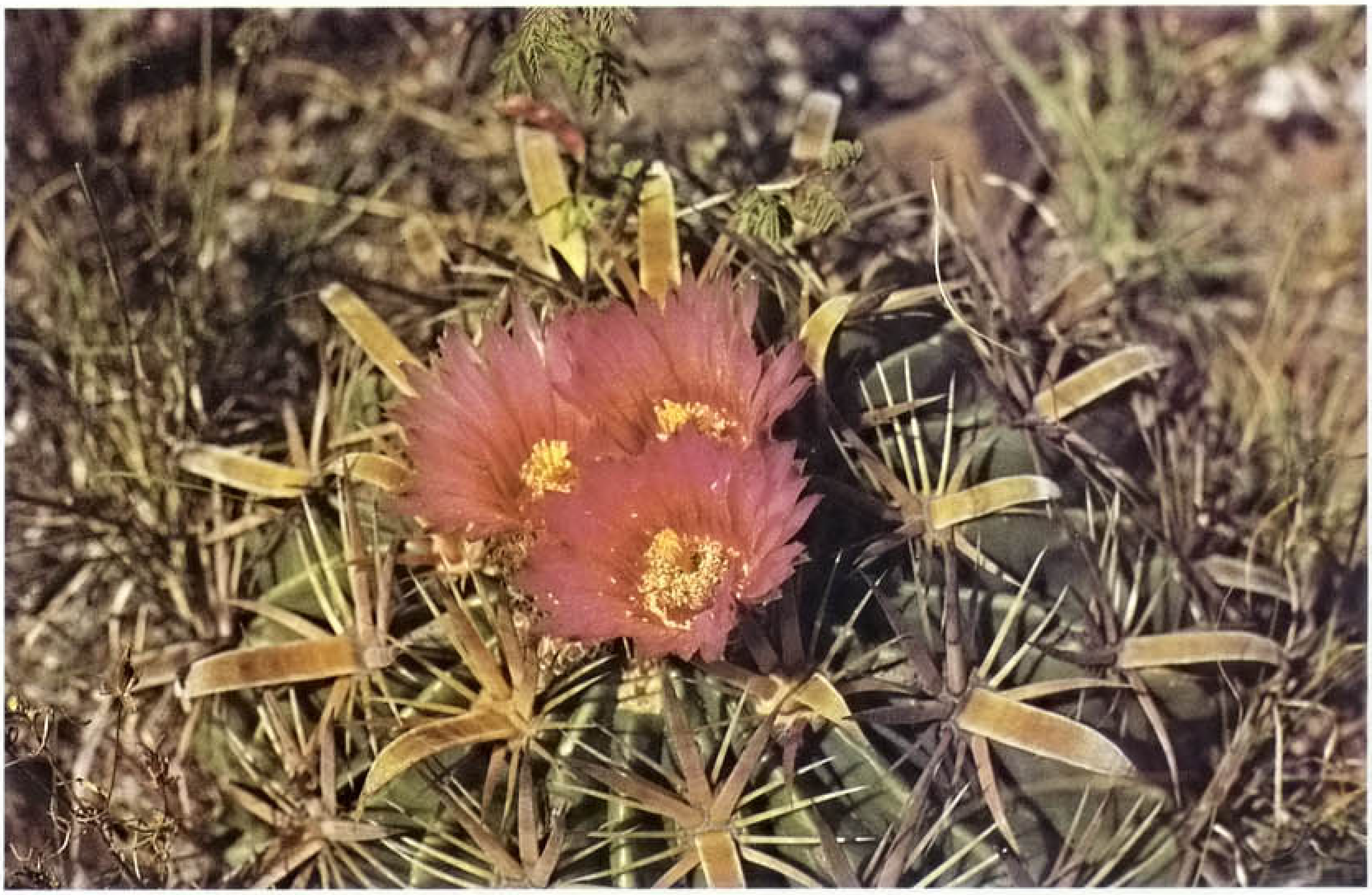

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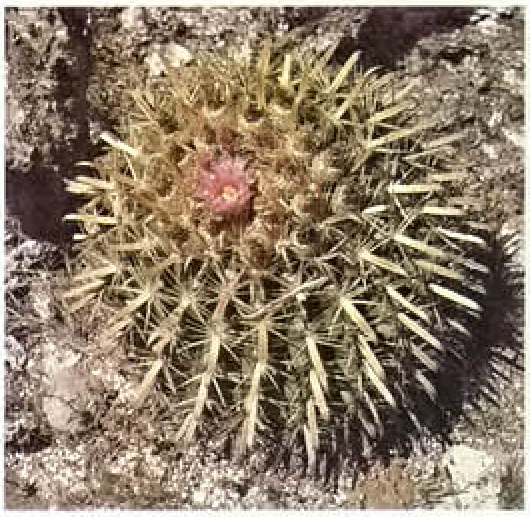

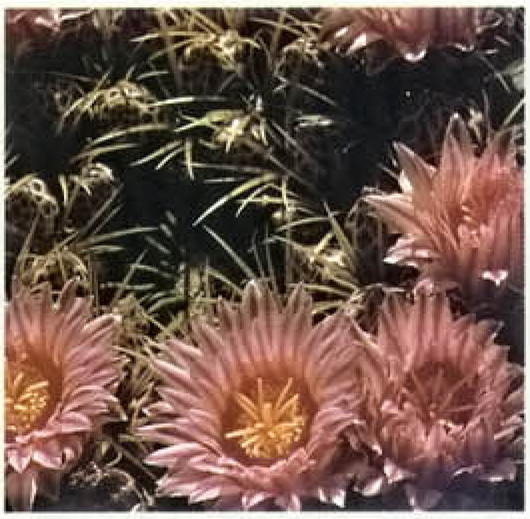

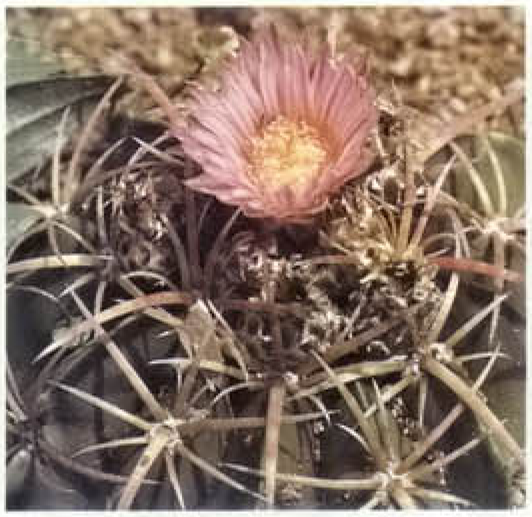

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FEROCACTUS **LATISPINUS** (Haw.) Br. & R.

Syn: *Cactus latispinus* Haw.

A broadly globular species of grayish green, 10in–1ft 3in in diameter with a slightly flattened top. The 15–23 ribs are rather notched with large gray areoles carrying six to twelve pale radial spines, and four reddish centrals up to 1⅓in long, the lower one hooked with a flattened surface and ⅓in wide. Flowers are diurnal, appearing in summer, and are whitish, reddish or purplish, and 1⅓in long. This is a popular, easily grown plant which requires a sunny position; normal cactus compost; minimum temperature 50°F. *Mexico (Central areas).*

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FEROCACTUS **MACRODISCUS** (Mart.) Br. & R.

Syn: *Echinocactus macrodiscus* Mart.

Stem globular but flattened at the top, and up to about 1ft diameter; it is a pale, dull green. There are 16–21 ribs with deep grooves between them. The areoles bear six to eight yellow or red radial spines up to ¾in long and four curved centrals to 1⅓in in length. Flowers are reddish-purple with a deeper median stripe along the petals; they are diurnal, blooming in late summer. Requires a sunny position; normal cactus compost; minimum temperature 50°F. *Mexico (San Luis Potosi to Oaxaca).*

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FEROCACTUS **MACRODISCUS var. SEPTENTRIONALIS** Meyran

Very similar to the species but a deeper green in color. The areoles are rather smaller than those of the species and have much paler spines. The flowers are more pinkish purple, and about 2in long; they are diurnal, and summer flowering. Requirements are similar to those for the species. *Mexico (Guanajuato).*

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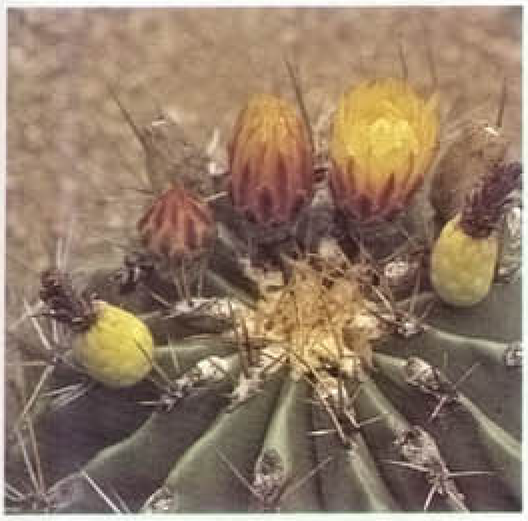
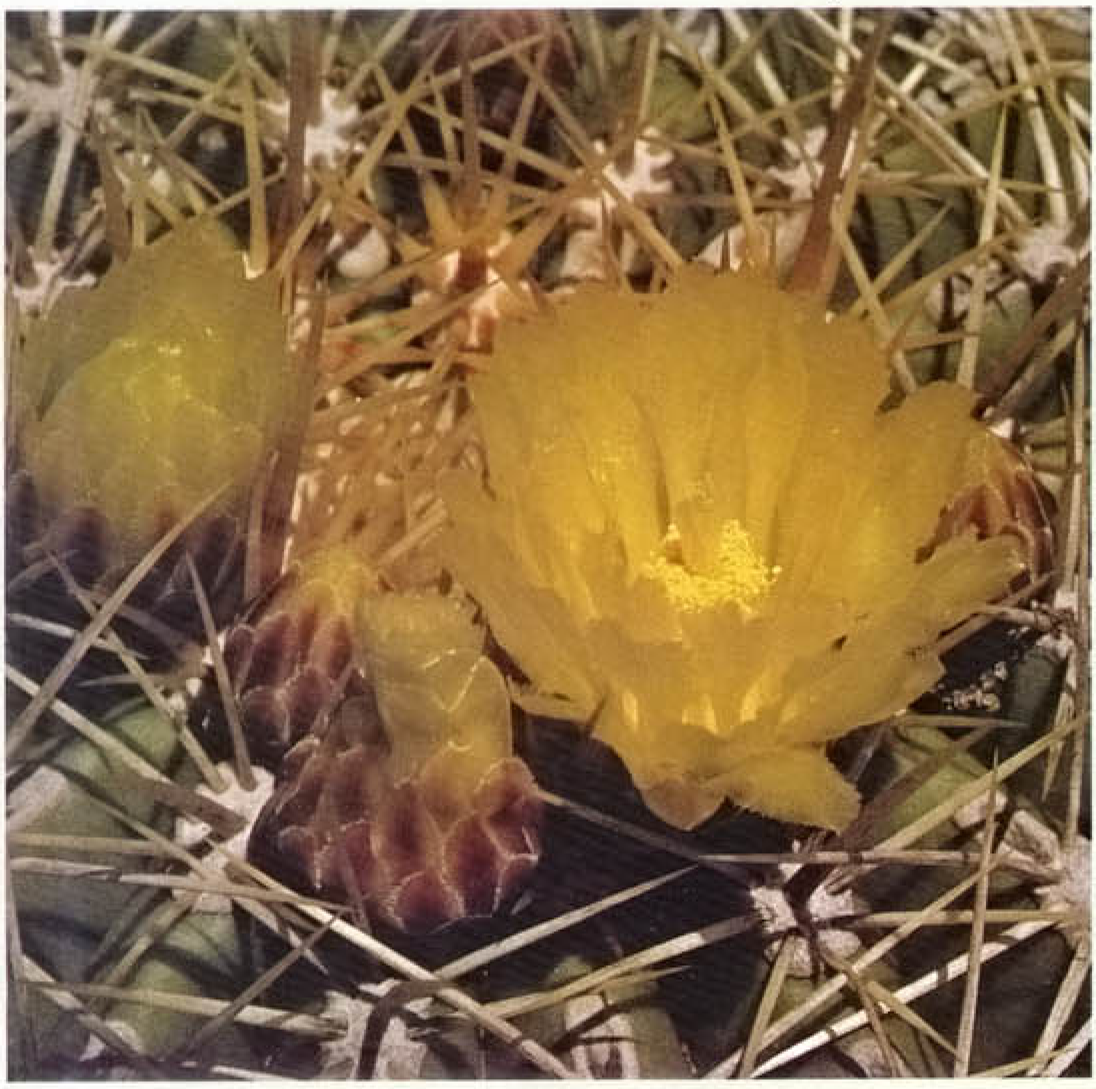


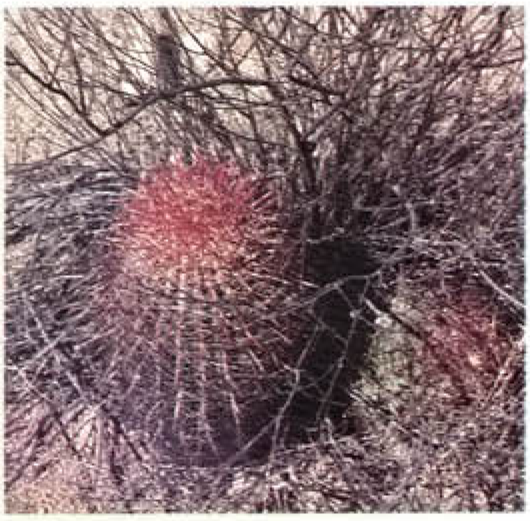
FEROCACTUS **POTTSII** (Salm-Dyck) Backeb.
Syn: *Thelocactus pottsii* Salm-Dyck.

A globular, solitary plant up to about 1ft in diameter, and a dull glaucous green. It has nine to sixteen ribs with long, white-felted areoles bearing seven to ten straight radial spines ½–¾in long and one to four centrals 1–1½in in length. These are reddish or grayish red, often banded in a deeper red. Flowers are diurnal, appearing in mid-summer; cup-shaped, they are yellow and 1½–2½in long. Requires a sunny location; normal cactus compost; minimum temperature 45°F. *Mexico (Chihuahua).*

FEROCACTUS **POTTSII var. ALAMOSANUS** (Br. & R.) Unger
Syn: *Echinocactus alamosanus* Br. & R.; *Ferocactus alamosanus* Br. & R.

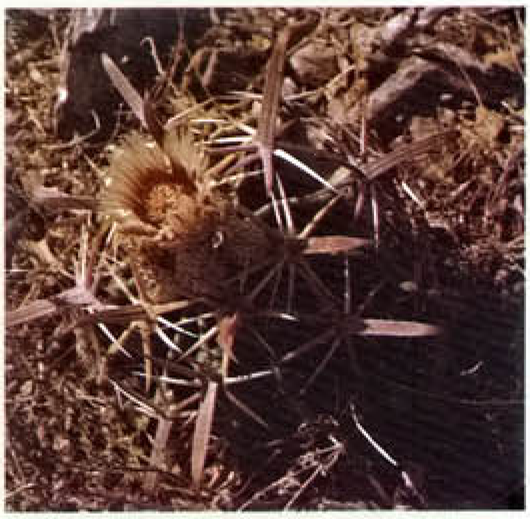
These plants are solitary, rarely forming groups. Green in color, they reach 1ft or more in diameter. The ribs are narrow, about 20 in number with dull yellowish spines consisting of about eight radials 1–1½in long and one more or less erect central to 2½in in length. Flowers are a rich yellow, about 2in long and across; flowering in summer, they are diurnal. Requirements are the same as for the species. *Mexico (Alamos Mountains, Sonora).*





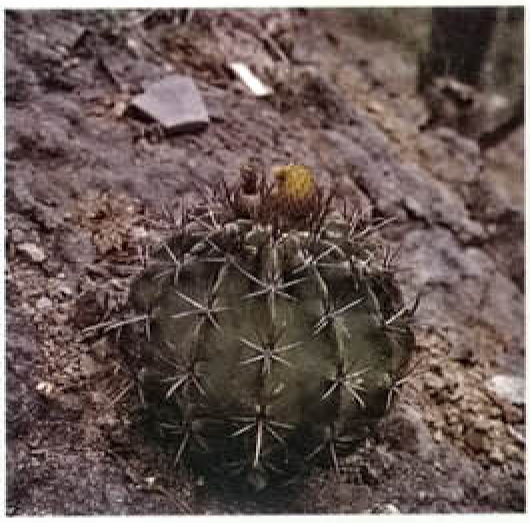
FEROCACTUS **RECTISPINUS** Br. & R.
Syn: *Ferocactus emoryii* var. *rectispinus* N. P. Taylor

A deep-green species more than 6½ft tall and 2ft in diameter. Ribs are straight, tuberculate, and up to 24 or more. Areoles are round and woolly with white bristles and seven to nine reddish radial spines, 1–2½in long, and one straight or curved reddish-brown central spine, longer than the radials. Flowers, which appear in summer, are diurnal; 2½–3in long, they are yellow, enhanced by the vivid purplish stigma-lobes. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Baja).*



FEROCACTUS **RECURVUS** (Mill.) Berger
Syn: *Ferocactus nobilis* (L.) Br. & R.

Globular or slightly cylindrical, solitary plants to 10in high, 8in wide, they are grayish green with 10–15 prominent ribs up to 1in high. The round, grayish areoles have eight stiff reddish-gray radial spines to 1in long, and one strongly hooked central, flat on its upper surface, to about 2in in length. The diurnal flowers, appearing in mid-summer, are pink with a deeper shade median line and throat; they are bell-shaped and 2in long. Needs a bright position; normal cactus compost; minimum temperature 55°F. *Mexico (Puebla, Oaxaca).*



FEROCACTUS **RECURVUS var. GREENWOODII** C. Glass
Syn: *Ferocactus latispinus* var. *greenwoodii* N. P. Taylor

Dark green in color, rarely exceeding 6in in diameter. Ribs, of which there are 13, tuberculate with long areoles ¾in in length bearing grayish-red spines. These are both radial and central, ⅔–1in long, with the single central up to 1½in long. The flowers are straw-yellow and bell-shaped, 2½in long, 1in across, and are diurnal in late summer. Requires slight shade; slightly calcareous compost; minimum temperature 55°F. *Mexico (Oaxaca).*

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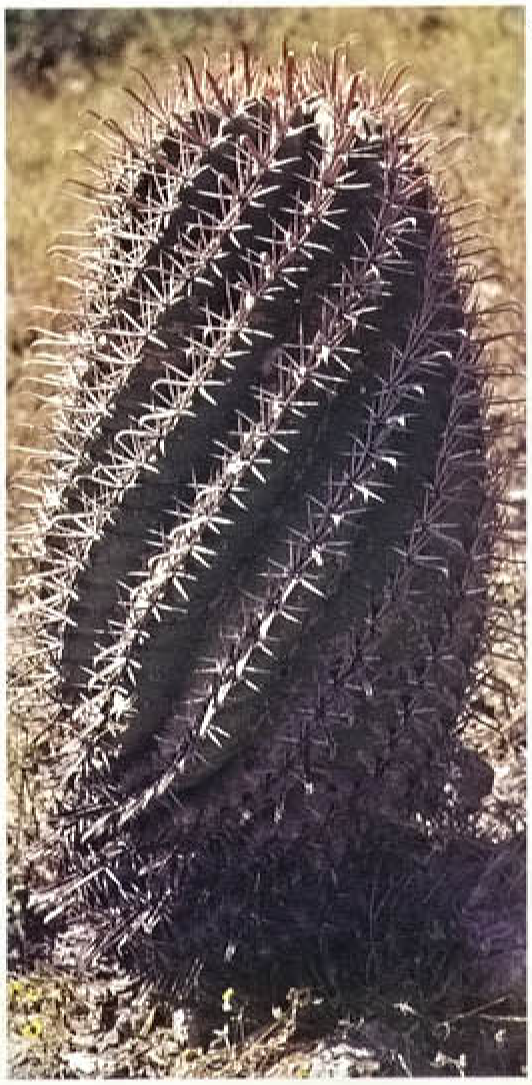

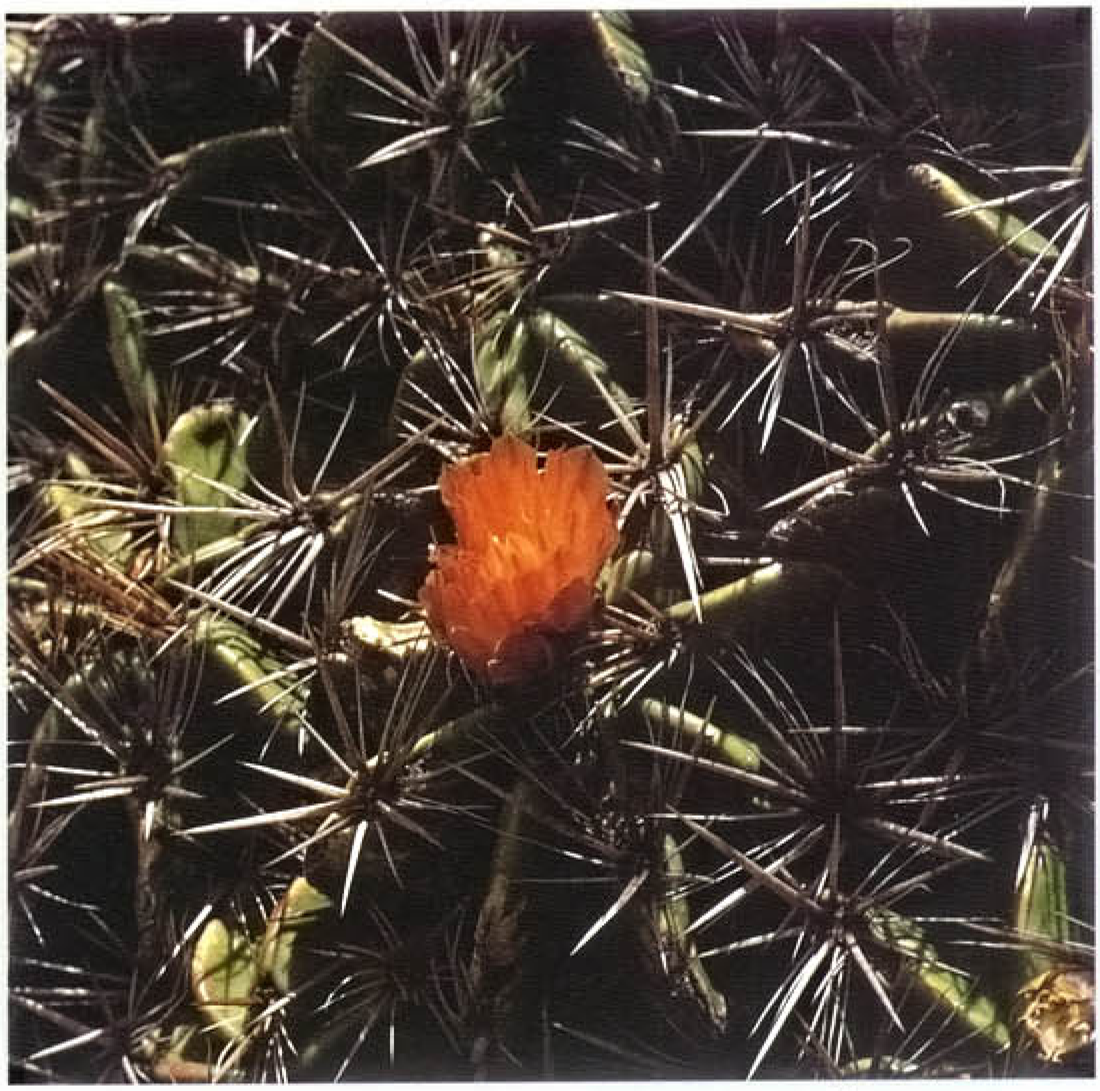

◀ FEROCACTUS **RECURVUS var. SPIRALIS** (Karw.) K. Sch.
Syn: *Echinocactus spiralis* Karw.; *Ferocactus latispinus* var. *spiralis* (Karw.) N. P. Taylor

A globular, often cylindrical grayish-green plant, larger than the species, with about 15 somewhat spiraled ribs with brownish-red spines which are more vivid at the upper part of the stem. In general, the flowers and cultivation requirements are the same as for the species. *Mexico (Oaxaca).*

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FEROCACTUS **ROBUSTUS** (Link & Otto) Br. & R.
Syn: *Echinocactus robustus* Link & Otto

A prolific, group-forming species with stems offsetting from the base. Each stem is 4–8in in diameter, dull green, and somewhat oval in shape. There are eight ribs and areoles set about ¾–1in apart, with 10–14 bristly yellowish radial spines about 1in long and four to six straight, slightly flat centrals up to 2½in long. The diurnal flowers are yellow or orange-yellow, about 1½in long, and bloom in summer. Requires a sunny position; normal cactus compost; minimum temperature 50°F. *Mexico.*

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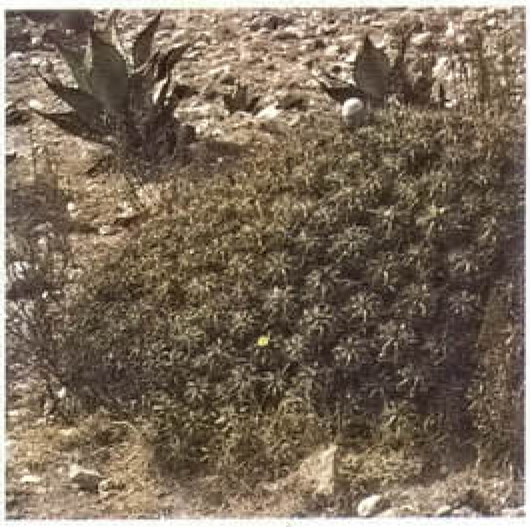

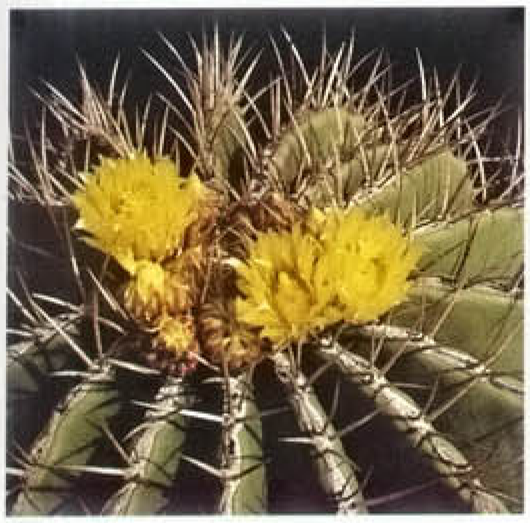

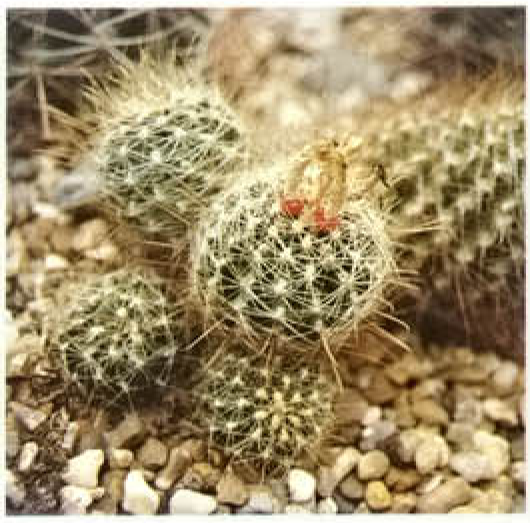

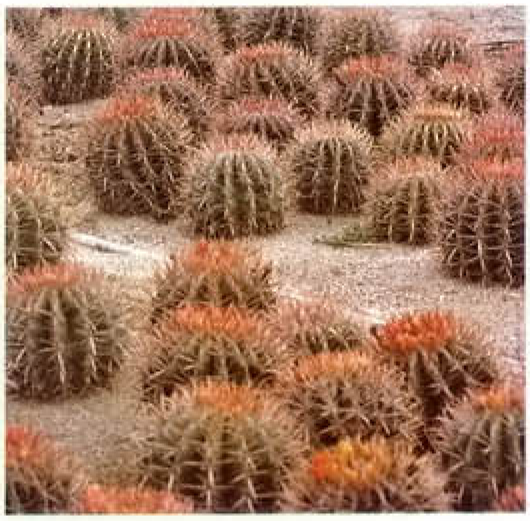

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FEROCACTUS **SCHWARZII** Linds.

Tall, solitary plants to about 2ft 7in high, 1½ft in diameter, and apple green in color. With 13–19 ribs about 2in high, the long brownish-gray areoles bear three to five radial spines and one to three centrals, all yellowish brown and varying from ⅔ to 2in long. The golden-yellow flowers are diurnal, appearing in summer, and are about 2in long, 1½in across, with many petals. Needs full sun; normal cactus compost; minimum temperature 55°F. *Mexico (Sinaloa).*

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FEROCACTUS **SETISPINUS** (Engelm.) L. Benson
Syn: *Hamatocactus setispinus* (Engelm.) Br. & R.

A globular, later elongating, species to 6in high and 4in across. Dark green, it offsets when old. There are 13 ribs, notched and often wavy, with areoles set about ½in apart. The spines are white or brown, consisting of six to fifteen radial spines and one to three centrals, hooked. Day flowering in summer; flowers are yellow with a red center. Needs full sun; normal cactus compost; minimum temperature 50°F. *USA (Texas), Northern Mexico.*

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FEROCACTUS **STAINESII** (Hook.) Br. & R.
Syn: *Echinocactus stainesii* Hook.

A globular species, becoming cylindrical and clustering, in maturity up to 9ft 8in tall, 2ft in diameter. The 15–20 ribs, up to 1½in high, have areoles set 1–1½in apart. Spines are reddish; there are six to eight radials to ¾in long, and four curved centrals to 1½in in length. The flowers, which are diurnal, bell-shaped, orange-red, and 1½in long, are produced in mid-summer. Requires really bright sunshine; normal cactus compost; minimum temperature 50°F. *Mexico (San Luis Potosi).*

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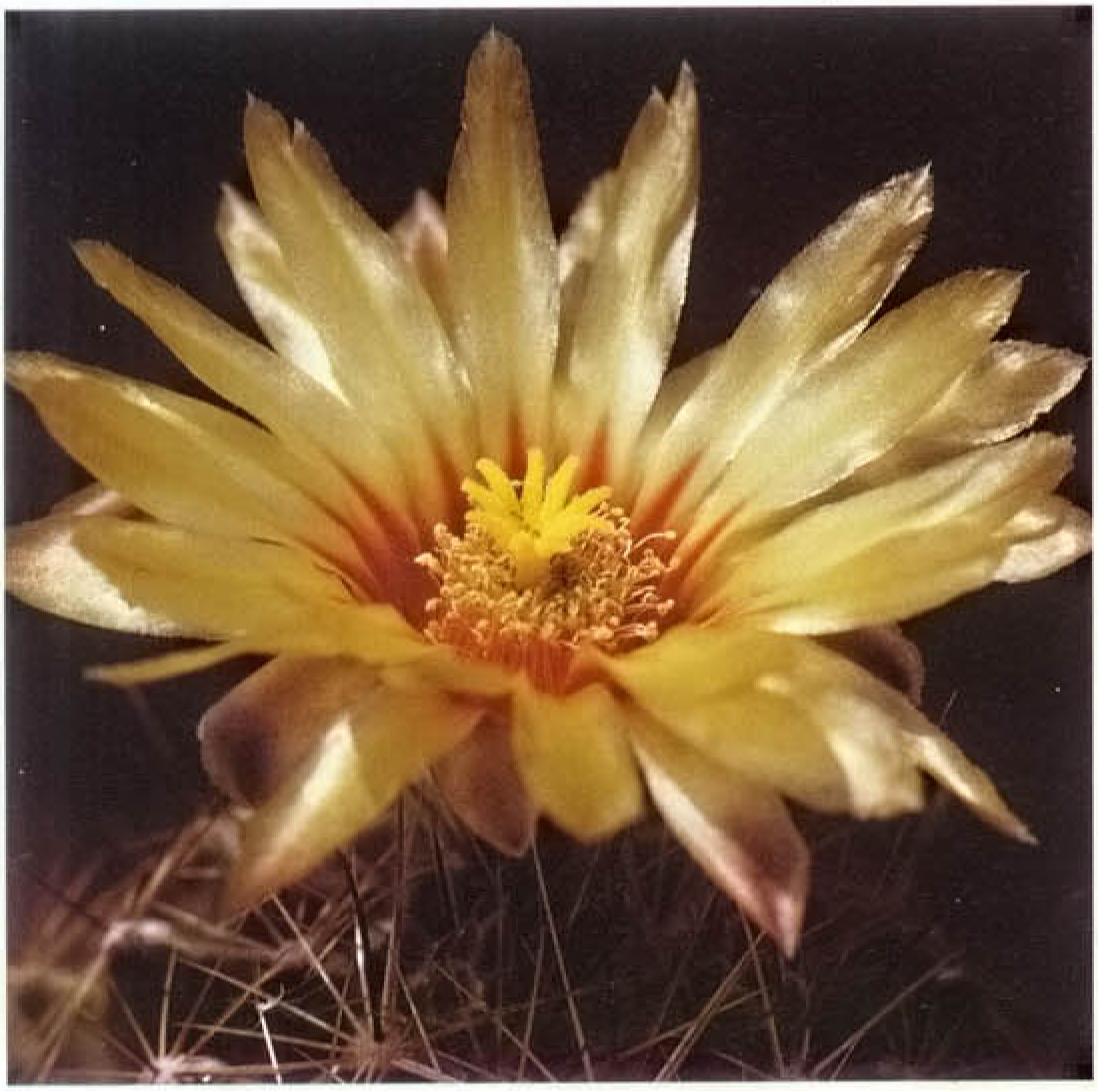

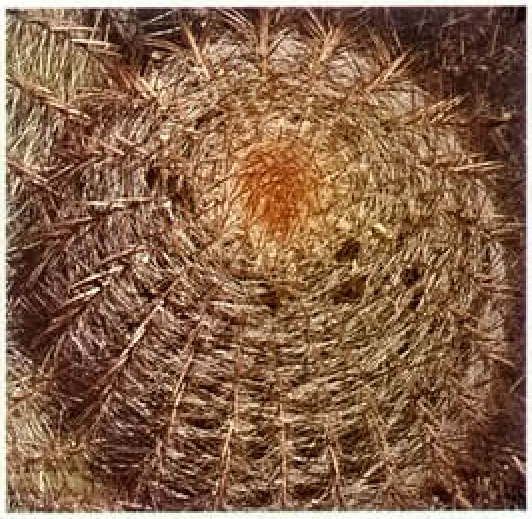

FEROCACTUS **STAINESII var. PILOSUS** (Gal.) Backeb.
Syn: *Echinocactus pilosus* Gal.

In general, this is very similar to the species in size, rib formation, and spination. It is peculiar insofar as the body of the plant is densely covered with fine whitish hairs from the areoles. The flowers and the requirements are the same as for the species. *Mexico (San Luis Potosi).*

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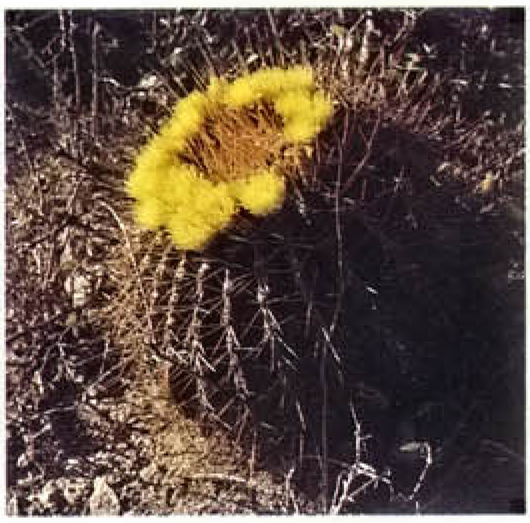
FEROCACTUS



FEROCACTUS **ECHIDNE var. VICTORIENSIS** (Rose) Linds. Backeb.

Syn: *Ferocactus victoriensis* Rose

Probably better described as a variety of *F. echidne*. These are globular plants to about 7in in diameter, bluish green, with 20 or more ribs. The areoles bear five to seven stiff yellowish radial spines up to about ¾in long, and one central 1–2in in length. The golden-yellow flowers appear in summer; they are day flowering, and are 1–1½in long. Requires good light at all times; normal cactus compost; minimum temperature 50°F. *Mexico (Ciudad, Tamaulipas, Victoria).*

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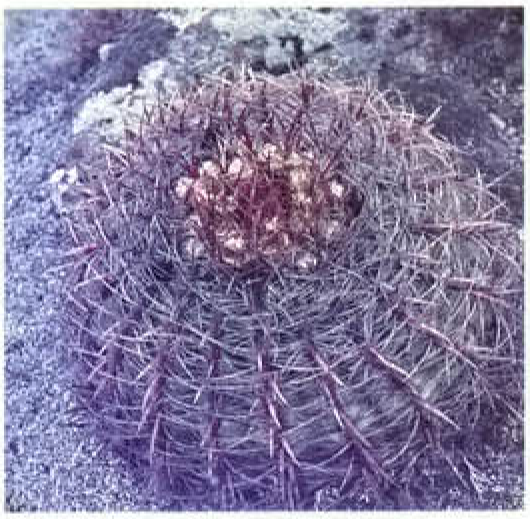

FEROCACTUS **VIRIDESCENS** (Torrey & A. Gray) Br. & R.

Syn: *Echinocactus viridescens* Torrey & A. Gray

A globular species, often offsetting from the base, reaching to about 1½ft high, 1ft 2in in diameter, and a glossy deep green. It has 13–21 ribs with short, whitish woolly areoles carrying nine to twenty greenish-red radial spines ¾in long, some curved, and four similarly colored centrals up to 1½in long. Flowers are diurnal, in summer, yellowish green and 1–1½in long. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Baja).*

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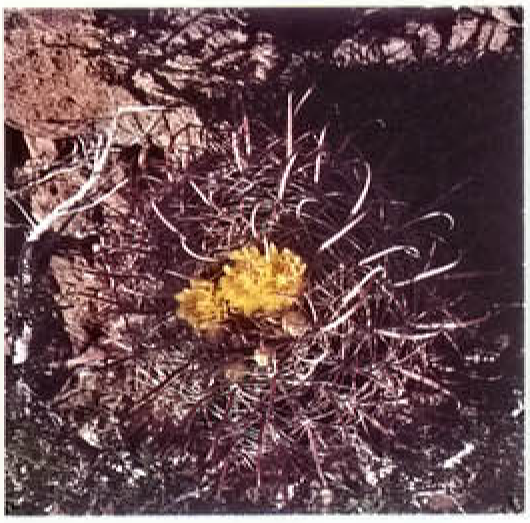

FEROCACTUS **WISLIZENII var. TIBURONENSIS** Linds.

Syn: *Ferocactus tiburonensis* (Linds.) Backeb.

The dark green stems are more or less cylindrical, up to 3ft tall and 1ft 2in in diameter. There are about 21 ribs, rather notched and with areoles bearing about 20 bristly grayish radial spines and one or more reddish hooked centrals, 3–3½in long. The flowers, diurnal, in summer, are golden yellow deepening to orange and about 2½in long, 2in across. Requires bright light, which is essential; normal cactus compost; minimum temperature 45°F. *Mexico (Baja).*

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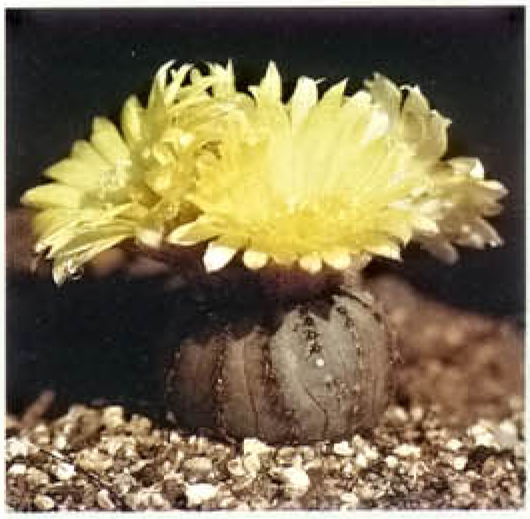
FRAILEA



FRAILEA **ASTEROIDES** Werd.

Syn: *Frailea castanea* Backeb.

A rather dwarf, dark reddish-brown species to about 1in in diameter. It has 10–15 ribs with diminutive areoles bearing about eight minute brownish spines which are hardly visible. The flowers are pale yellow and 1½in across. They bloom by day, in summer, several appearing together. Requires full sun at flowering time; slightly acid, porous compost; minimum temperature 55°F. *Uruguay, Brazil.*

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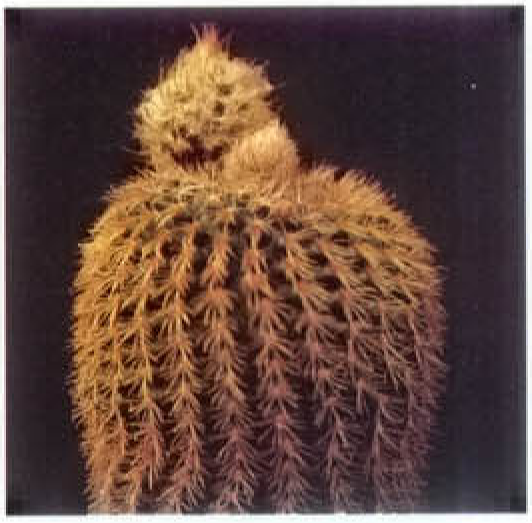

FRAILEA **CURVISPINA** Buin. & Bred.

A comparatively new discovery. The plants are up to 2in high and about 1in in diameter, and are a deep gray-green. There are about 32 more or less straight and warty ribs and small, yellowish-brown areoles which bear about 14 dense, curved yellow or white radial spines to about ¼in long with one central spine. Flowers, about 1in across, are clear yellow, and diurnal in summer. Needs sun and warmth, which are very necessary; slightly acid, porous compost; minimum temperature 55°F. *Brazil (Rio Grande do Sul).*

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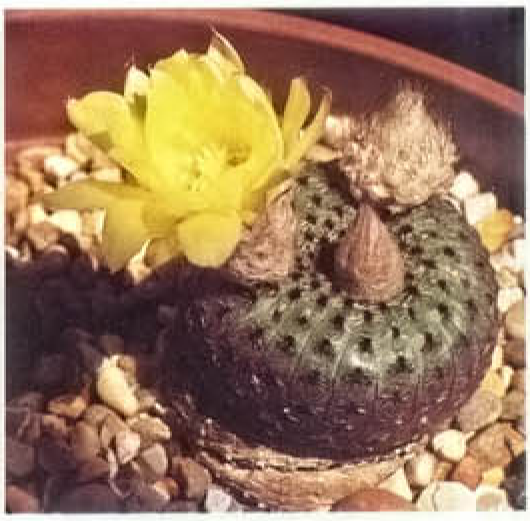

FRAILEA **PYGMAEA var. PHAEODISCA** (Speg.) Y. Ito

Syn: *Frailea phaeodisca* Speg.

A small species with a very dark grayish-green stem 1–1½in in diameter. About 30 ribs have brownish-black minutely tufted areoles bearing a few, scarcely discernible spines. Flowers appear in summer from near the crown of the plant; these are yellow, about 1in across, and can pollinate without opening! Requires full sun at flowering time; a normal, but slightly acid cactus compost; minimum temperature 55°F. *Uruguay.*

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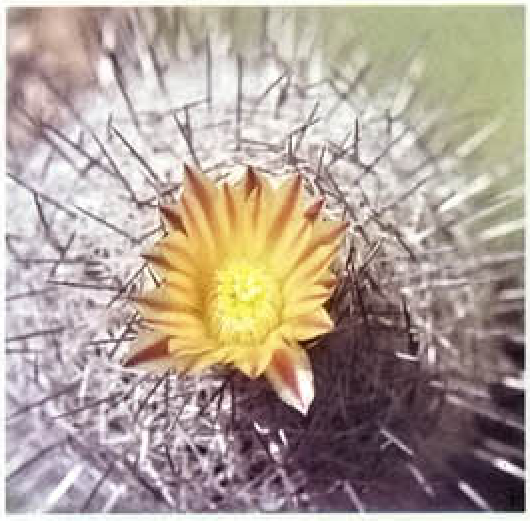

GYMNOCACTUS BEGUINII var. nova

A more recent introduction, currently unnamed, which bears many features common to the species, the principal difference being the colorful flowers of pale yellow with the reddish midstripe. It was discovered during the expeditions of Charles Glass and Robert Foster.

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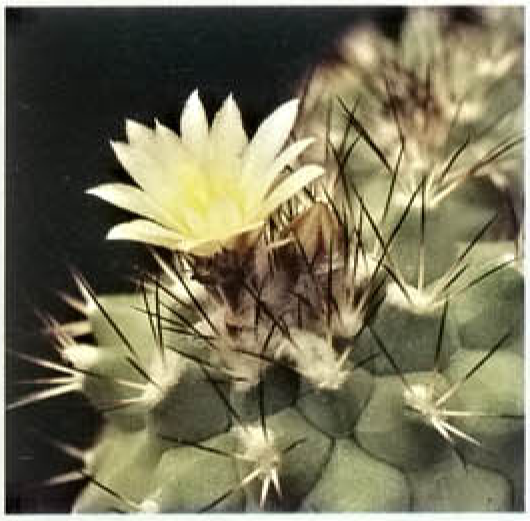

GYMNOCACTUS GIELSDORFIANUS (Werd.) Backeb.
Syn: *Neolloydia gielsdorfianus* (Werd.) F. Knuth; *Thelocactus gielsdorfiana* (Werd.) Bravo

A globular plant to 3in high, 2in wide, and bluish gray. The areoles are pyramid-shaped and spirally arranged, and the axils bare. Spines are brown or black: there are six to eight radials to ¾in long but no centrals. Day flowering in summer, flowers are creamy white to about 1in long. Requires sun; a permeable, enriched mineral compost; minimum temperature 50°F. *Mexico (Tamaulipas).*

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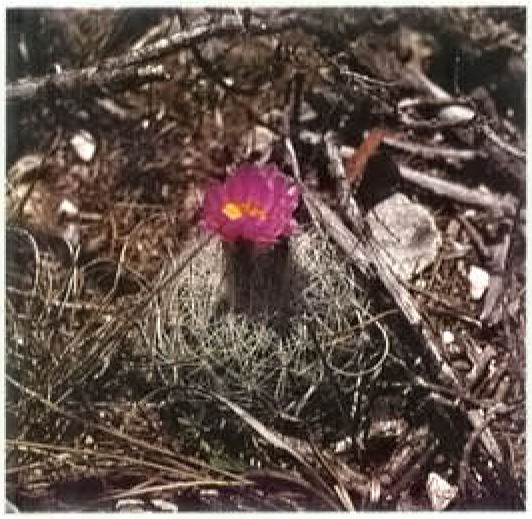

GYMNOCACTUS BEGUINII (Weber) Backeb.
Syn: *Echinocactus beguinii* Weber; *Thelocactus beguinii* N. P. Taylor

The bluish-green stem is usually solitary, globular in shape, and up to 6in tall, 3¼in in diameter with 13–21 tubercled ribs. The tubercles are somewhat conical and close-set, and there are 12–20 grayish, black-tipped radial spines ⅔in long, and one or two centrals to 1in. Flowering in summer, the blooms are diurnal, pinkish purple in color and 1–1½in long. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Coahuila).*

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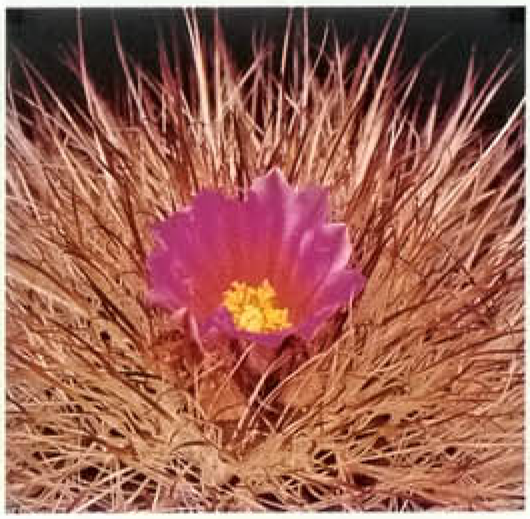

GYMNOCACTUS BEGUINII var. SENILIS Hort.

A very pleasing, attractive form, of uncertain origin. In most respects it is similar to the species but is more densely spined, and the spines are brownish and longer. Flowers are the same as those of the type. Requirements are the same as for the species.

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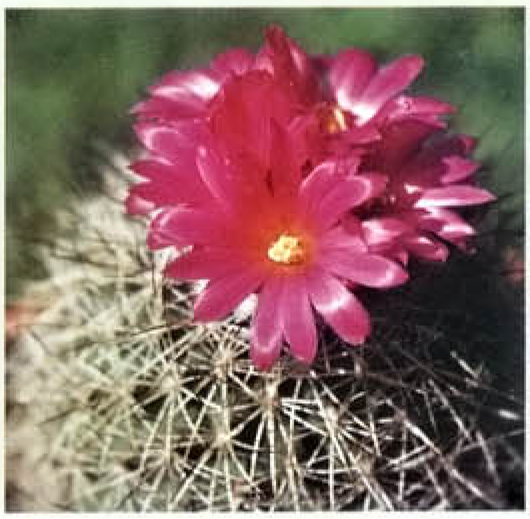

GYMNOCACTUS HORRIPILUS (Lem.) Backeb.
Syn: *Thelocactus horripilus* (Lem.) Kladiwa & Fittkau; *Neolloydia horripila* Br. & R.

A globular, bluish-green plant about 3½in high and thick with 15–18 ribs divided into close-set tubercles about ½in high. The spines are whitish, sometimes with brownish tips: there are nine to fifteen radials up to ⅔in long and one longer central. Day flowering in summer, the flowers are a deep purple-red, about 1in long. Requires sun; a slightly calcareous cactus compost; minimum temperature 50°F. *Mexico (Hidalgo).*

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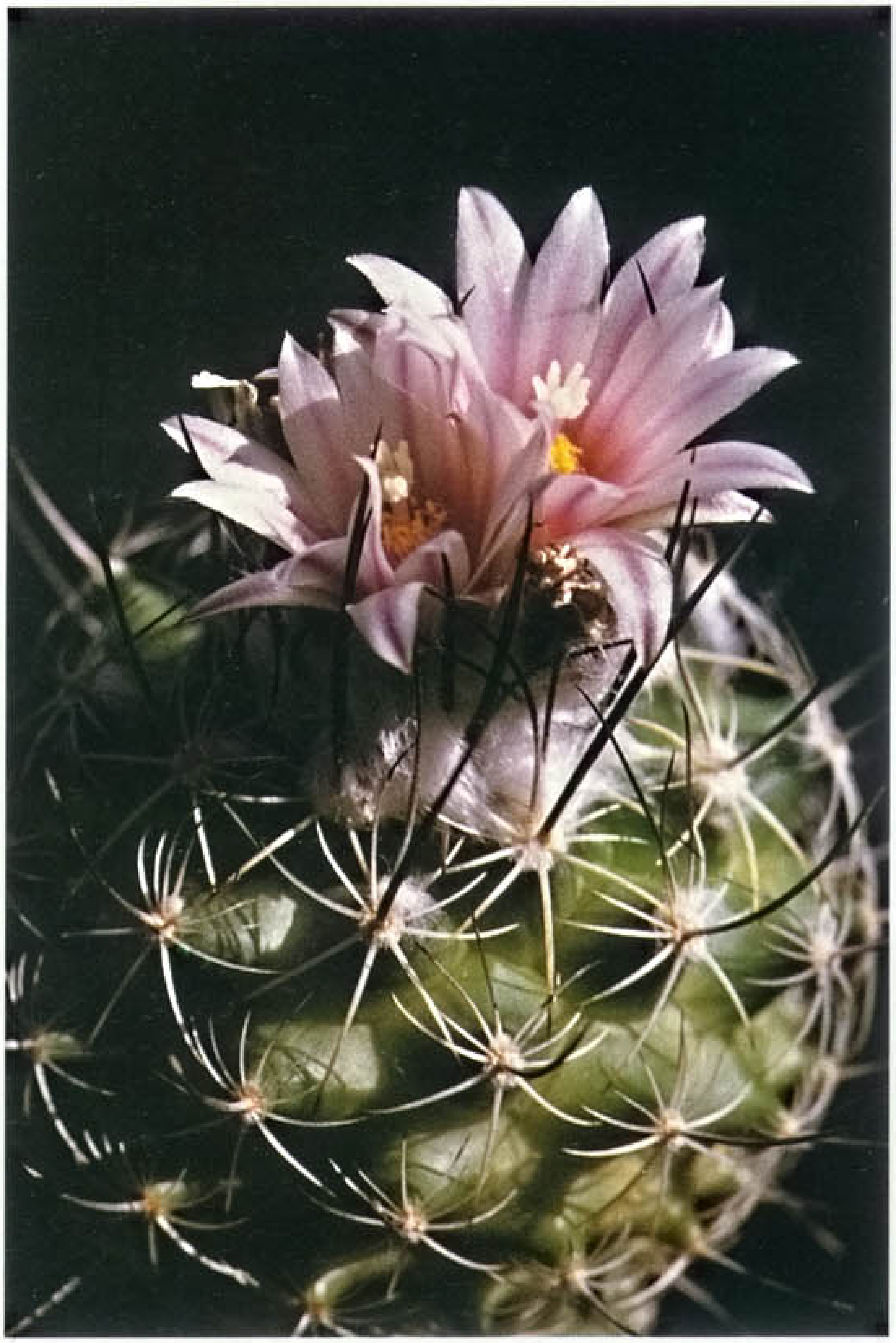

GYMNOCACTUS **hybrid** Glass

An inter-generic hybrid of *Gymnocactus viereckii* and *Turbinicarpus schmiedickeanus*. It is a charming globular plant of dwarf dimensions with a white woolly crown and attractive spination. Flowers are pale pink with a deeper midstripe to the petals and appear by day in summer. Needs a sunny position; normal cactus compost; minimum temperature 50°F.

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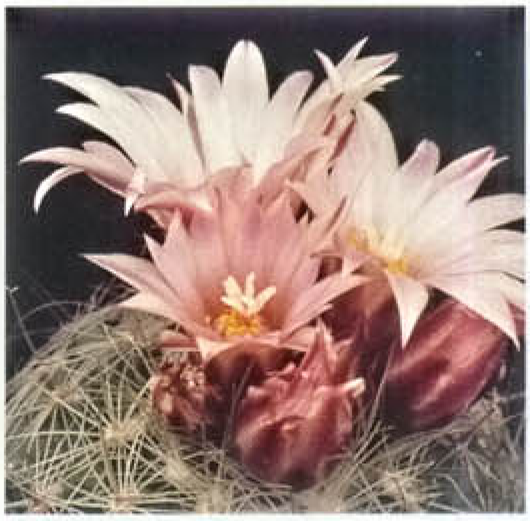

GYMNOCACTUS **KNUTHIANUS** (Böed.) Backeb.

Syn: *Thelocactus knuthianus* (Bravo)

A bright-green, solitary or group-forming plant with globular stems about 3½in high and in diameter. It has 13 ribs divided into slender tubercles and white woolly areoles bearing nine to twenty whitish radial spines up to ⅔in long, and one slightly longer central. Summer flowering, and diurnal, the flowers are in shades of pink, 1–1⅓in long. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (San Luis Potosi).*

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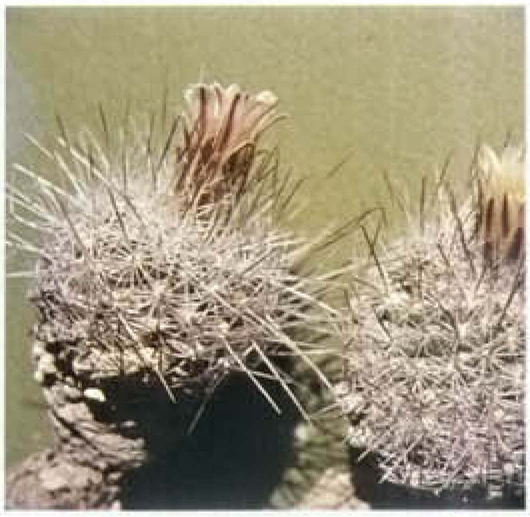

GYMNOCACTUS **MANDRAGORA** (Frič ex Berger) Backeb.

Syn: *Neolloydia mandragora* (Frič) E. F. Anderson

Gray-green, globular plants 1½–2½in wide, with four-angled, close-set tubercles. Woolly areoles carry 12 radial spines ¼–⅓in long, and there are two thicker, brown-tipped white centrals. Day flowering in summer, flowers to ¾in long, 1in across, white with reddish or greenish outer segments. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico.*

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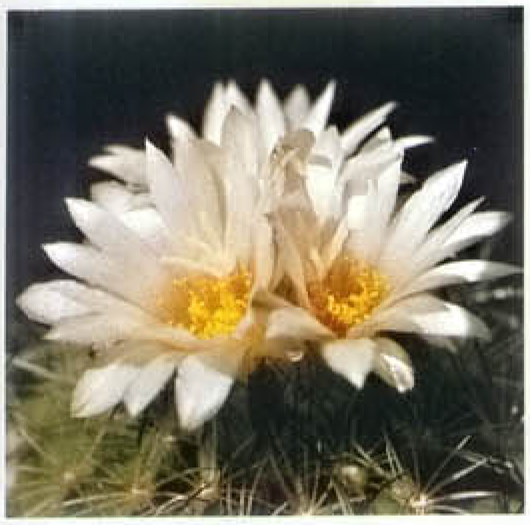

GYMNOCACTUS **SAUERI** (Böed.) Backeb.
Syn: *Thelocactus saueri* (Böed.) Berger

Small gray-green plants which are more or less globular, solitary, and about 1in high, 2¼in in diameter. There are 13 ribs divided into short six-sided tubercles and 14–18 white, brown-tipped radial spines ⅔in long with one or two brown centrals ¾in in length. Flowers are white, 1in long, and appear by day, in early summer. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Tamaulipas).*

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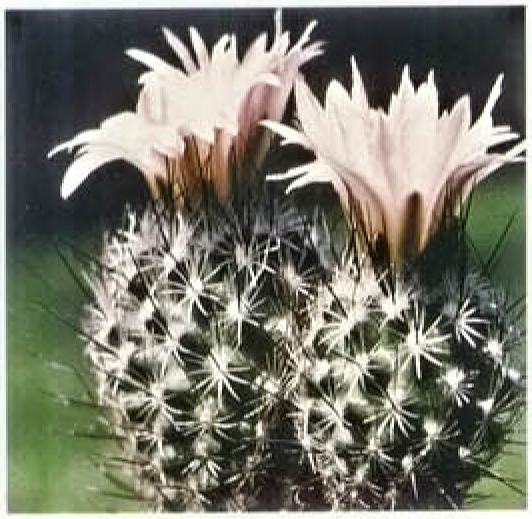

GYMNOCACTUS **SUBTERRANEUS** (Backeb.)
Syn: *Neolloydia subterranea* Backeb.

Arising from a tuberous rootstock, the bright green stems are up to about 2in long, 1in in diameter. The white woolly areoles carry about 16 white radial spines ¼in in length, and two dark grayish centrals about ¾in long and whitish bristles 1in in length. Flowers are pinkish violet, 1in across; these occur in summer, and are diurnal. Requires full sun; slightly calcareous, enriched, and porous compost; minimum temperature 50°F. *Mexico (Tamaulipas).*

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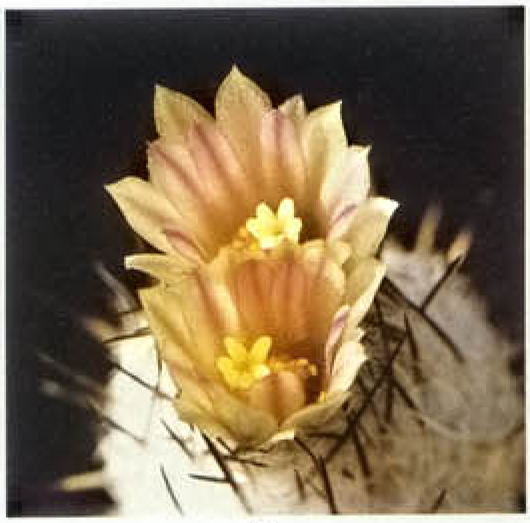

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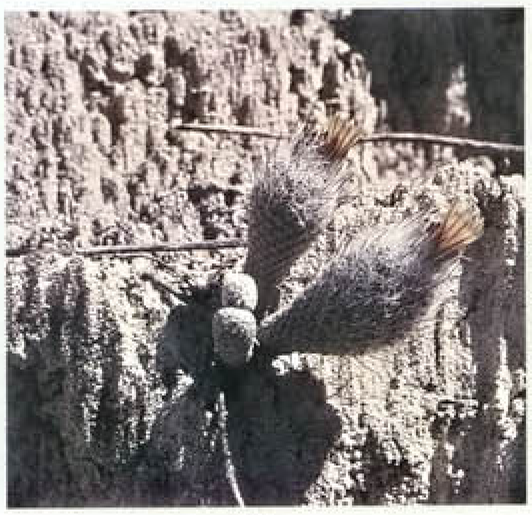

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GYMNOCACTUS **SUBTERRANEUS var. ZARAGOSAE** Glass & Foster
Syn: *Neolloydia subterranea* var. *zaragosae* (Glass & Foster) E. F. Anderson

The long stems, tapering toward the base, are about 1–1½in thick with a long tuberous rootstock. Areoles are very woolly at flowering time; they bear 21–25 brown-tipped white radial spines ⅒–¼in long and two to three subcentrals up to ¾in in length. There are two brownish-black centrals, the upper longer than the lower, and up to ⅔in long. Day flowering in summer, the flowers are up to ¾in long, ⅔in across, and are yellowish with a greenish-violet or pink midstripe. The peculiarly long tap roots afford anchorage to almost perpendicular gypsum cliffs near to Zaragosa. Requires sun; a slightly calcareous, enriched compost; minimum temperature 50°F. *Mexico (Nuevo Leon).*

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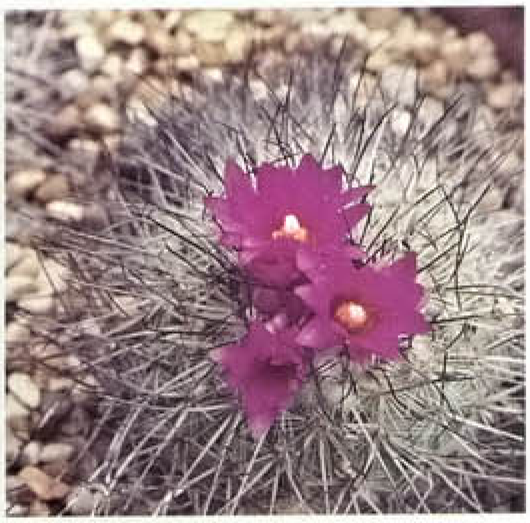

GYMNOCACTUS **VIERECKII** (Werd.) Backeb.
Syn: *Neolloydia viereckii* (Werd.) F. Knuth

Stems are globose, 1in high, 1¾in thick, and freely offsetting. Dull bluish green in color, they are divided into about 15–18 tuberculate ribs. The white woolly areoles carry up to 20 white radial spines up to ½in long and there are four to five black-tipped centrals to ¾in in length. Flowers are magenta, ¾in long and wide, occurring diurnally, in summer. Requires bright light; enriched calcareous mineral compost; minimum temperature 50°F. *Mexico (Tamaulipas).*

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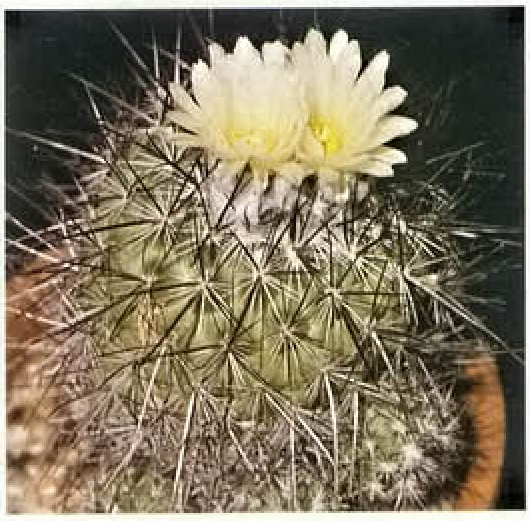

GYMNOCACTUS **VIERECKII var. MAJOR** Glass & Foster
Syn: *Neolloydia viereckii* var. *major* (Glass & Foster) E. F. Anderson

A greenish, globose plant to 3in high, 1½–2¾in wide. Tubercles are pyramidal in shape, to ⅓in high, with bare axils. Spines are gray to brown, 13–16 radials ¼–½in long, two to four subcentrals ⅕–⅓in in length, and four centrals to ¾in long. Flowers are white, 1in long, 1⅓in across, diurnal, in summer. Needs sun; normal cactus compost with lime added; minimum temperature 50°F. *Mexico (San Luis Potosi).*

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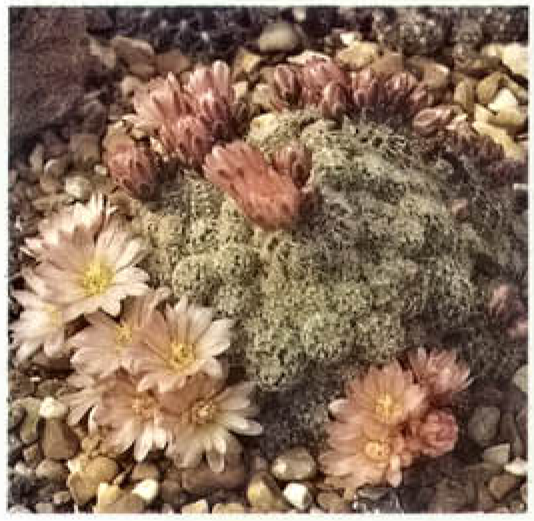
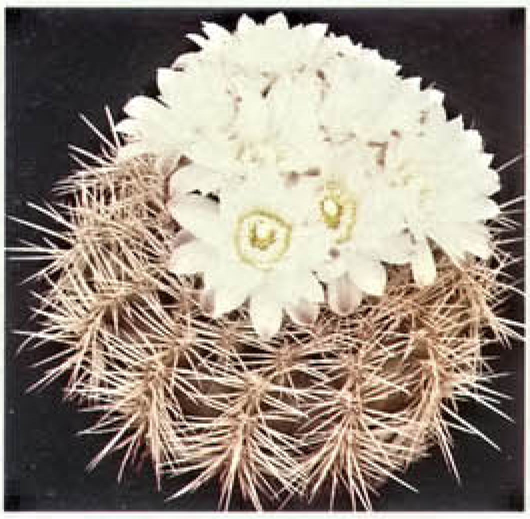


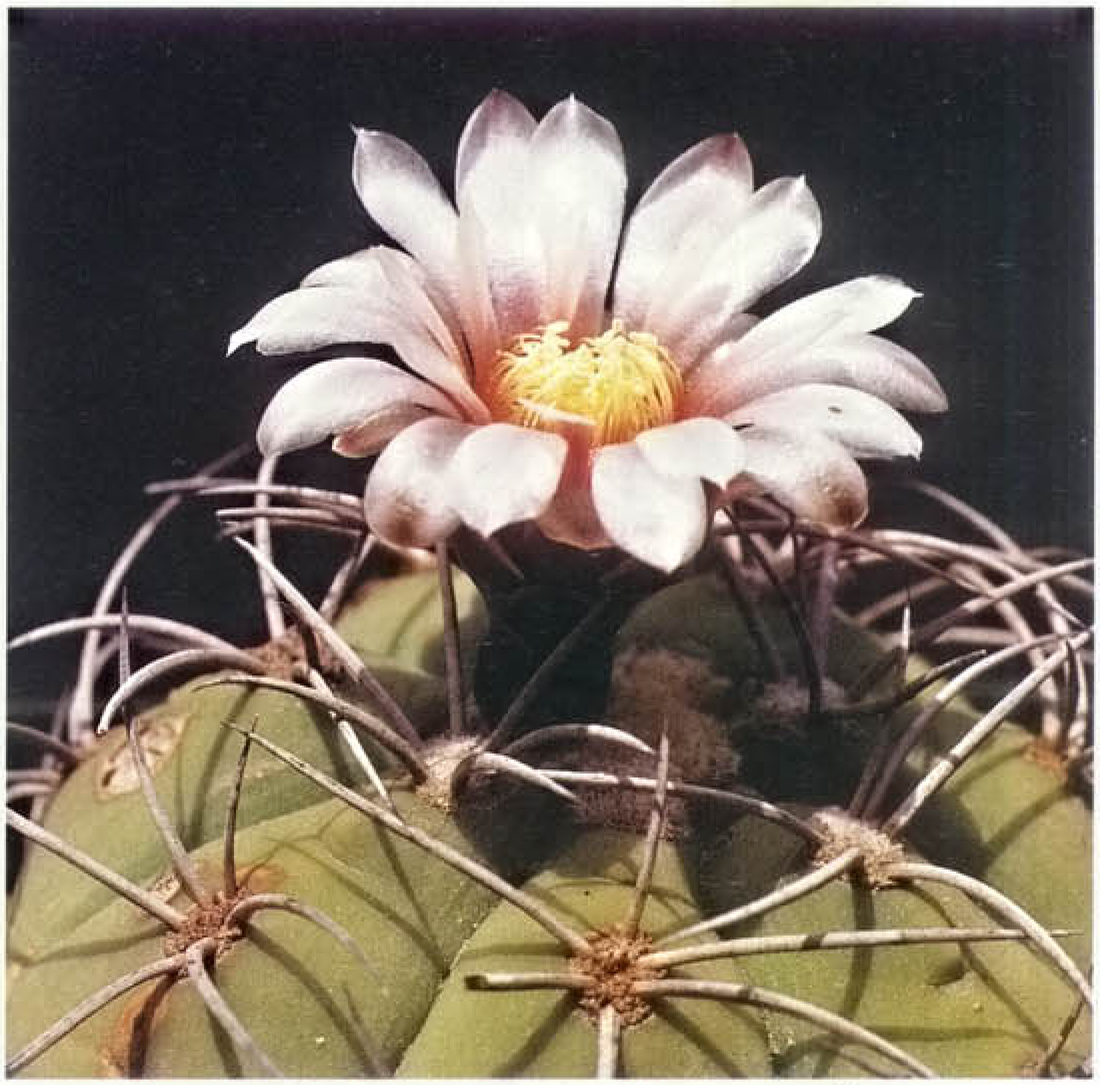
GYMNOCALYCIUM **BRUCHII** (Speg.) Hoss.
Syn: *Gymnocalycium lafaldense* Vaup.

A dark-green clustering plant with globular stems 1–2½in thick with about 12 ribs divided into roundish tubercles. The elongated white areoles have 10–15 white radial spines ⅕in long and one brownish and longer central spine, which is often absent. Flowering by day in summer, the flowers are pale pink, about 1in long. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Argentina (Cordoba).*



GYMNOCALYCIUM **BRUCHII *albispinum*** hort.

This appears to have come from the same locality as the species. The areoles are brownish with prominent white spines, both radials and centrals. Flowers are white, the outer petals slightly suffused purple pink. Requirements are the same as for the species.



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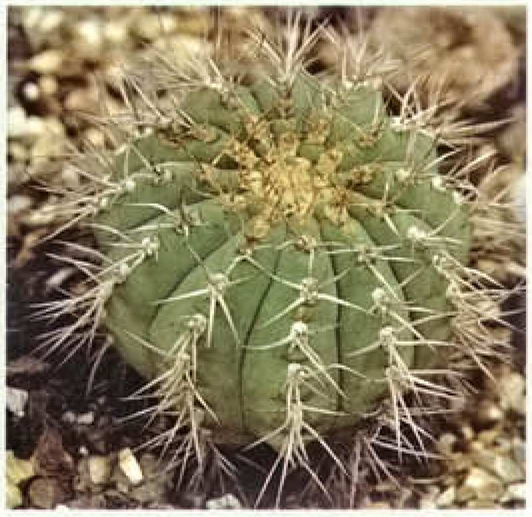
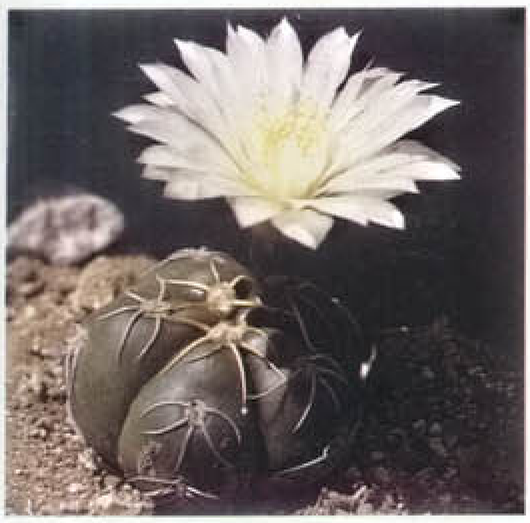
GYMNOCALYCIUM **CASTELLANOSII** Backeb.

A solitary, globular species, velvety bluish green in color, and up to 6in tall, 4in in diameter with 10–12 broad ribs. The white woolly areoles are set about ¾in apart, and bear five to seven dark-tipped whitish radial spines to 1in long, with sometimes one central. Flowers are white flushed pink, about 1¾in across. Day flowering in summer, it requires normal cactus compost; slight shade; minimum temperature 50°F. *Northern Argentina.*



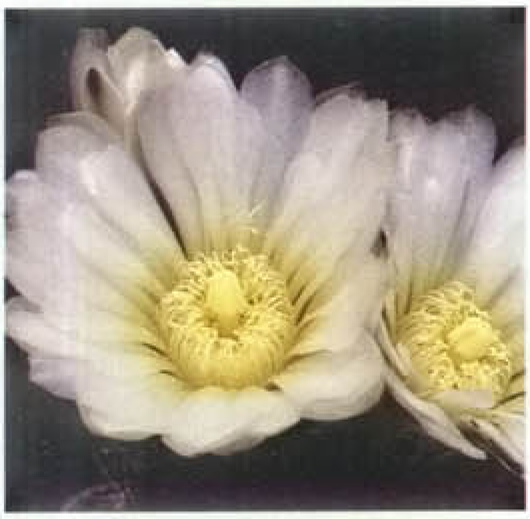
GYMNOCALYCIUM **CARDENASIANUM** Ritter

Grayish-green, large globular plants 4¾–9½in in diameter with about eight to ten ribs. Areoles are whitish with two to six whitish or pale-brownish radial spines up to 2½in long and one or two centrals to 3¼in. The flowers vary from pink to white, and are about 2in long, 3¼–3½in across; they appear in early summer, and are diurnal. Needs slight shade; normal cactus compost; minimum temperature 50°F. *Bolivia (Tarija).*



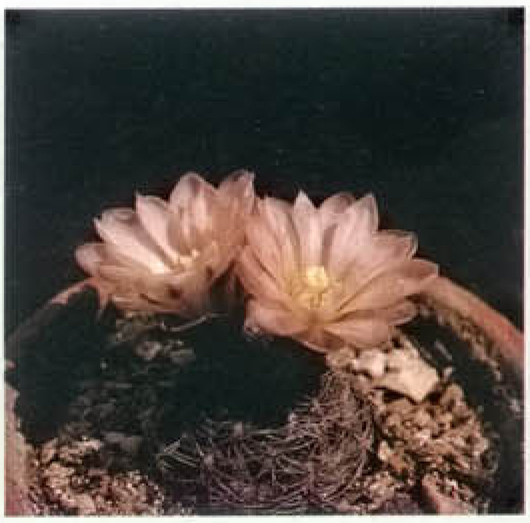
GYMNOCALYCIUM **DENUDATUM** (Link & Otto) Pfeiff.

Dark, almost grayish-green globular plants 3¼–6in in diameter with five to eight prominent ribs set with only a few areoles. The spines are whitish or grayish, five to eight in number, and up to ⅔in long. Day flowering in mid-summer, the blooms are pure white, 2in long and 3in in diameter. Requires slight shade, normal cactus compost; minimum temperature 50°F. *Argentina, Uruguay, Brazil.*



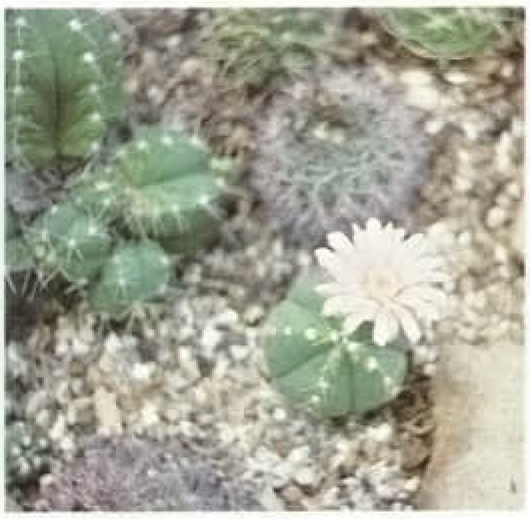
GYMNOCALYCIUM **GIBBOSUM** (Haw.) Pfeiff.

A dark bluish-green, globular plant generally up to 7ft high, 4–6in wide. It has 12–19 notched, rounded ribs. The areoles, up to ¾in apart, bear seven to ten pale brown radial spines to 1⅓in long and one to three centrals, which are often absent. Flowers are whitish or reddish, and up to 2¾in long. Day flowering in summer, it requires indirect light; normal cactus compost; minimum temperature 50°F. *Argentina (La Plata, Mendoza, San Luis).*



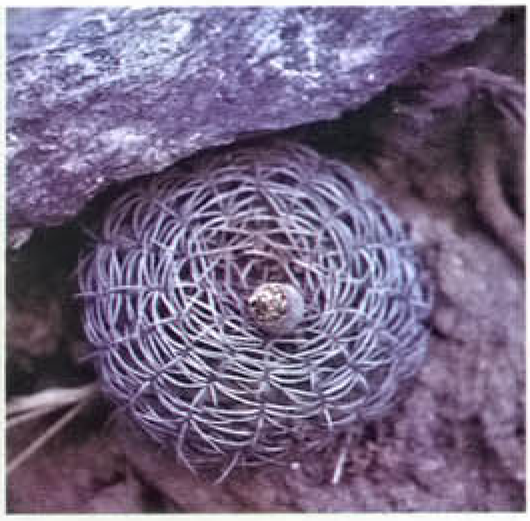
GYMNOCALYCIUM **HORRIDISPINUM** Frank

Dark grayish-green globular plants to 3¼in wide, sometimes becoming slightly elongated. There are 10–13 ribs bearing brownish areoles with 10–12 creamy-brown radial spines and four rigid centrals, 1–1½in in length. Summer flowering, it is diurnal; the flowers are pale purplish pink or white with pinkish edges, 2½in long and across. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Argentina (Cordoba).*



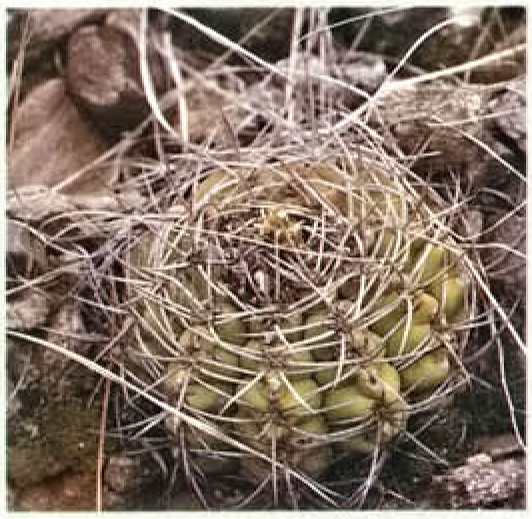
GYMNOCALYCIUM **HORSTII** Buin.

Bright green globular plants up to about 4¼in in diameter with five to six wide ribs, often bumpy. The areoles are whitish with about five yellowish-white radial spines to 1in long, and occasionally one or two brown centrals of unequal length. Day flowering in early summer, the flowers are creamy white or pale purplish pink to 4¼in long and across. Requires a position in filtered light; normal cactus compost; minimum temperature 55°F. *Brazil (Rio Grande do Sul).*



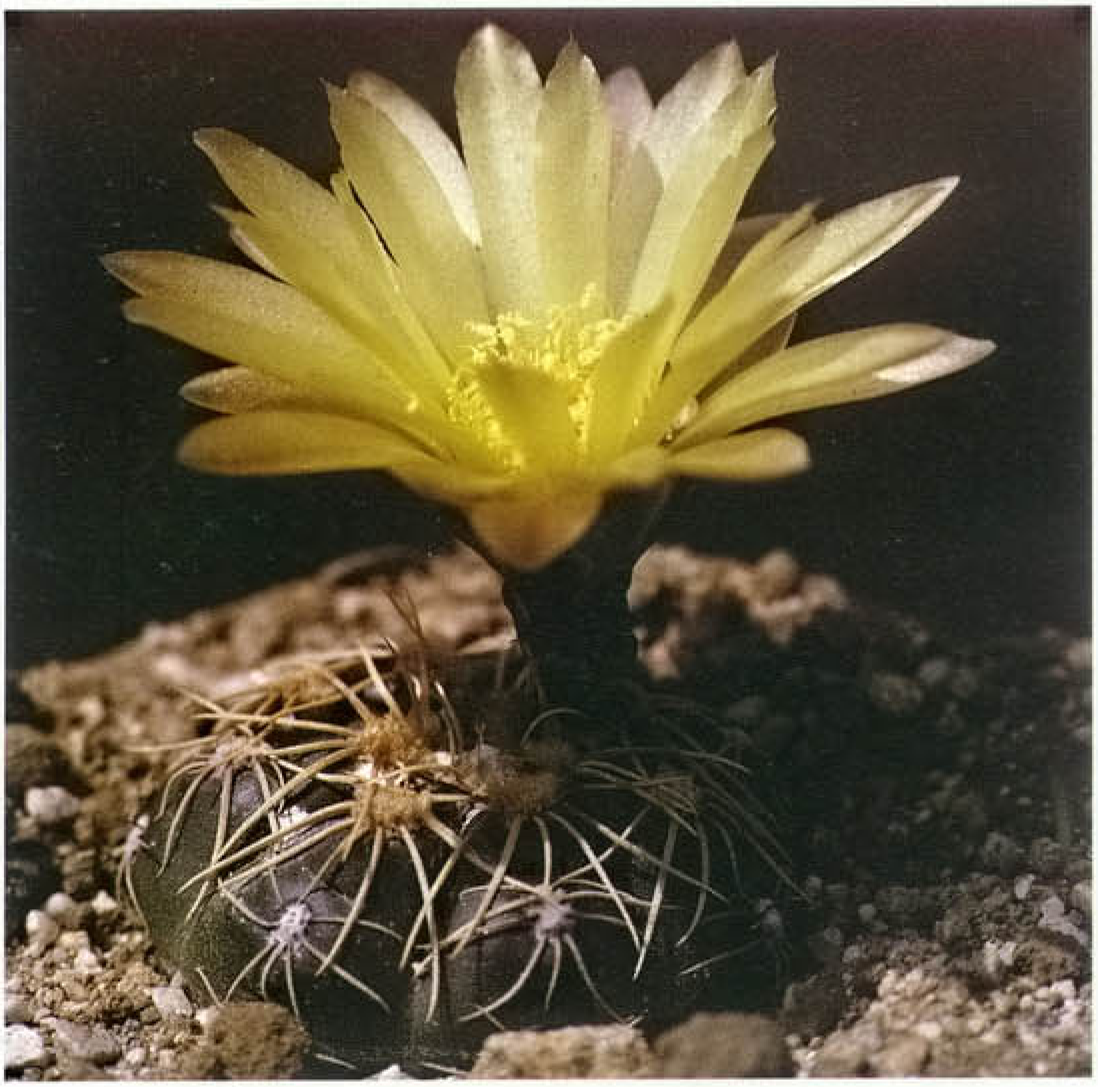
GYMNOCALYCIUM **HYBOPLEURUM** (K. Sch.) Backeb.

The spines are very variable in this species. Globular in shape, the plants are grayish green, with usually 13 ribs and brownish areoles bearing incurved grayish-white or pale brownish spines, usually nine radials but no centrals. Flowers are white to greenish white with a slightly pinkish throat, and about 1½in long. Summer flowering, it is diurnal, and requires normal cactus compost; slight shade; minimum temperature 50°F. *Argentina (Cordoba).*



GYMNOCALYCIUM **HYBOPLEURUM var. FEROCIOR** Backeb.

This very long-spined plant appears to be that described by Backeberg as a new variety. The long, twisted, pale brownish spines are particularly significant, these being both radials and centrals. Flowers and requirements are the same as those for the species. *Argentina (Catamarca).*



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GYMNOCALYCIUM **LEEANUM** (Hook.) Br. & R.

A bluish-green, rather flattened globular plant to 3in wide with up to 15 ribs divided into more or less six-sided tubercles. There are up to about 11 radial spines, ½in long, and occasionally one central. Flowers are yellowish-white, 2–2½in long and wide, blooming in early summer, and are diurnal. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Argentina, Uruguay.*

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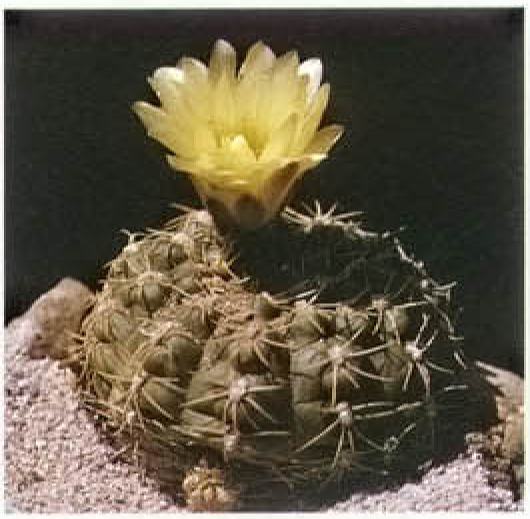

GYMNOCALYCIUM **LEEANUM var. NETRELIANUM** (Monv.) Backeb.

Slightly more globular in shape than the species with fewer and shorter spines, amounting to about five to seven radials ⅓in long, but usually no centrals. The flowers are citron yellow, 1½–1¾in long and across. Requirements are the same as for the species. *Uruguay.*

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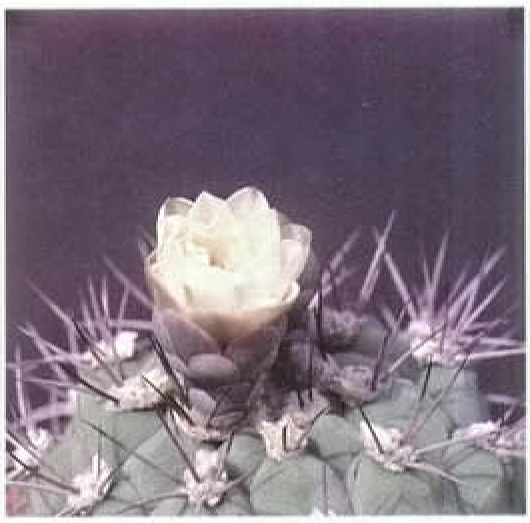

GYMNOCALYCIUM **MARQUEZII** Card. **var. ARGENTINENSE** Backeb.

A grayish-green, globular plant about 4in in diameter, 1½–2in high. The eight to ten ribs are divided into prominent warts and the areoles are whitish, bearing seven to nine reddish-brown or brownish-gray radial spines to 1in long and one or two centrals not exceeding the radials in size. Flowers are white, to 2in long and across, and are day flowering in mid-summer. Needs partial shade; normal cactus compost; minimum temperature 50°F. *Argentina (Salta).*

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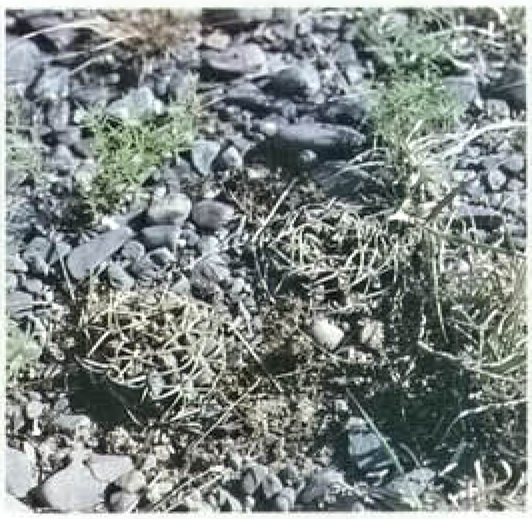

GYMNOCALYCIUM **MARSONERI** (Fric) Y. Ito

A small grayish-green, somewhat flattened, globular species with about 15 notched ribs. Areoles are yellowish brown, bearing seven brownish radial spines up to 1in in length, but no centrals. The flowers, yellowish white to white, 1⅓in long and 1–1¾in across, are day flowering in mid-summer. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Argentina (Salta).*

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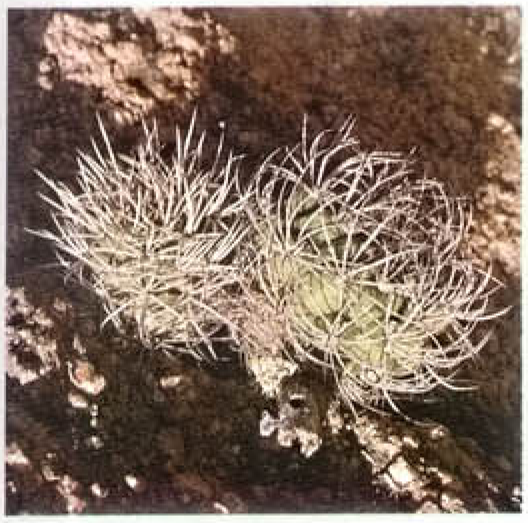

GYMNOCALYCIUM **MAZANENSE** Backeb.
Syn: *Echinocactus mazanensis* Backeb.

A globular, dull-greenish plant (shown on left of picture) 7–10cm in diameter with 14–18 rounded ribs divided into warts 1.5–2cm apart. Woolly areoles bear nine to twelve brownish, later greyish, spines 2–3.5cm long and spreading or recurving. The flowers are pinkish, about 4cm across. Summer flowering, they are diurnal and require partial shade; normal cactus compost; minimum temperature 10°C (50°F). Also depicted is *G. saglionis* (right). *Argentina (near Mazan).*

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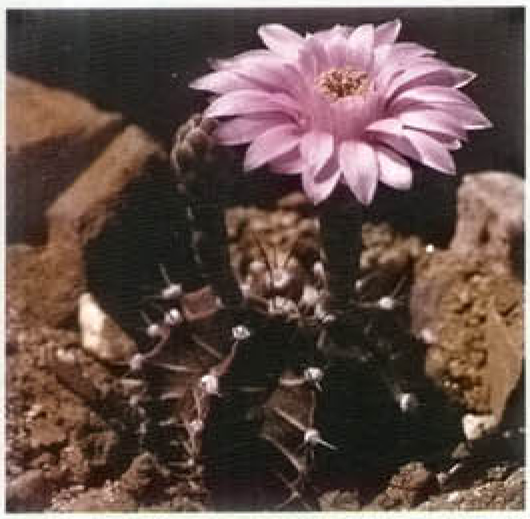

GYMNOCALYCIUM **MIHANOVICHII var. FRIEDRICHII** (Fric & Gürke) Br. & R.

The stems are globular, grayish green or reddish green, and about 2½in in diameter. There are usually eight ribs, somewhat cross-banded. Areoles are white, bearing five to six radial spines up to ½in long. Flowering in early summer, the blooms, which are diurnal, are bright pink or yellowish, with greenish outer segments, 1½–2in long and across. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Paraguay (Bahia Negra).*

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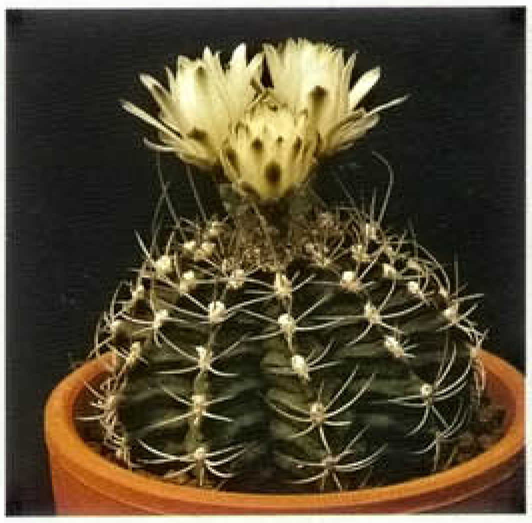

GYMNOCALYCIUM **MIHANOVICHII var. ALBIFLORUS** Werd.

A rather larger plant than the species, up to about 4in in diameter, it has five to six radial spines with usually one central. The flowers are variable, rose pink or (as depicted) *fma. albiflora* has pale cream or white flowers. Flowering and cultivation requirements are the same as for the species. *Paraguay.*

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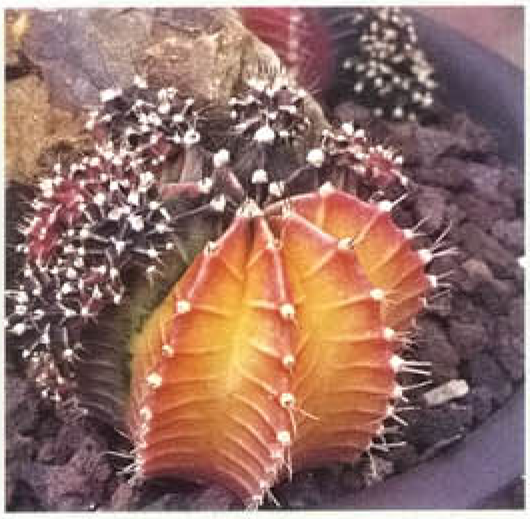

GYMNOCALYCIUM **MIHANOVICHII var. FRIEDRICHII Cristate 'Nishiki'**

Malformity occurs frequently with this species. The normal stem coloring often develops in conjunction with the reddish growth, the coloration of which is due to a lack of chlorophyll. Requirements are the same as for the species.

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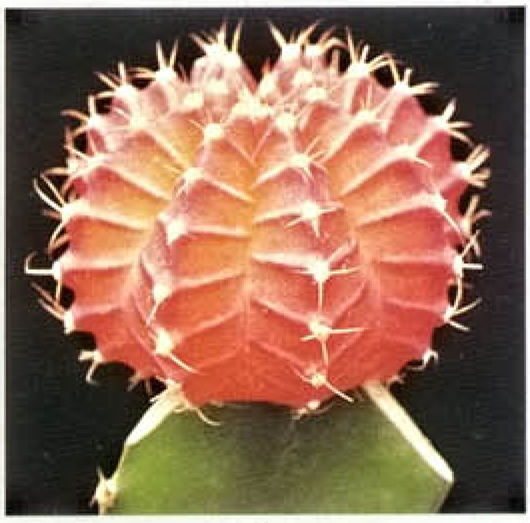

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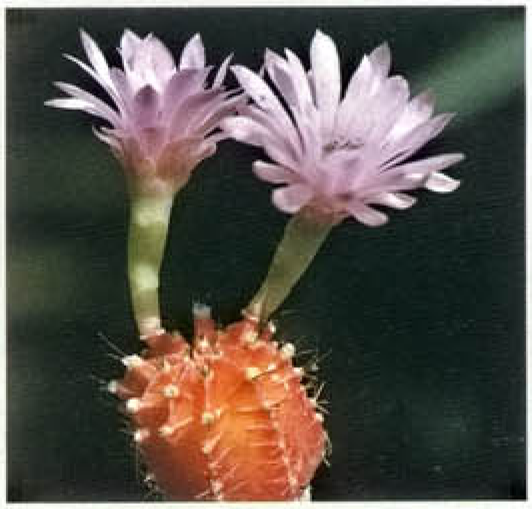

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GYMNOCALYCIUM **MIHANOVICHII cv. 'Hibotan'**

A freak form of the variety due to a lack of chlorophyll when the seed was germinated. Its survival depends entirely upon its being grafted on to robust stock such as *Hylocereus*. Regardless of its "peculiar existence," it nevertheless is able to produce attractive pink flowers. Requirements are the same as for the species.

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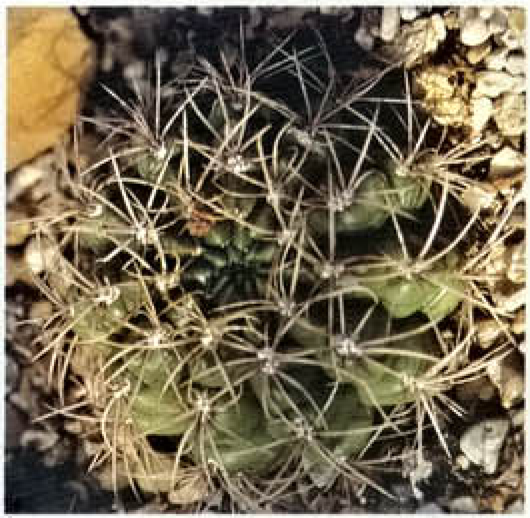
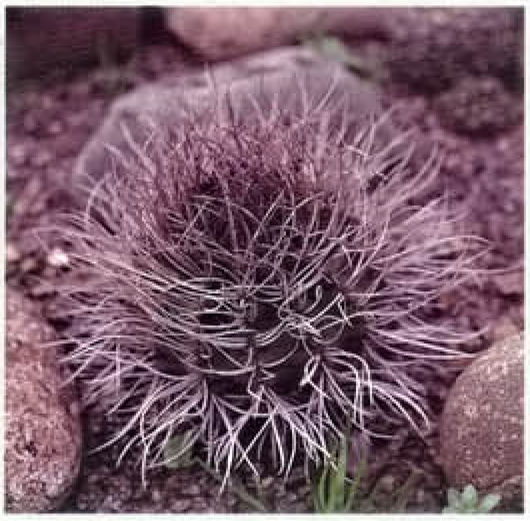


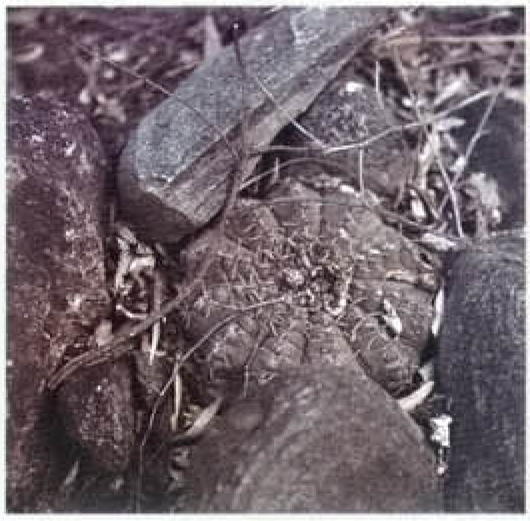
GYMNOCALYCIUM MOSTII (Gürke) Br. & R.

A somewhat globular plant, depressed at the top, it is up to 2½–3in tall, 4¾–5in in diameter, and deep green in color. There are 11–14 ribs, deeply notched into tubercles with prominent "chins." The areoles have seven radial spines ⅕ to 1in long and one straight central. Summer flowering, and diurnal, the reddish flowers are about 3¼in across. Requires a bright position; normal cactus compost; minimum temperature 50°F. *Argentina (Cordoba).*



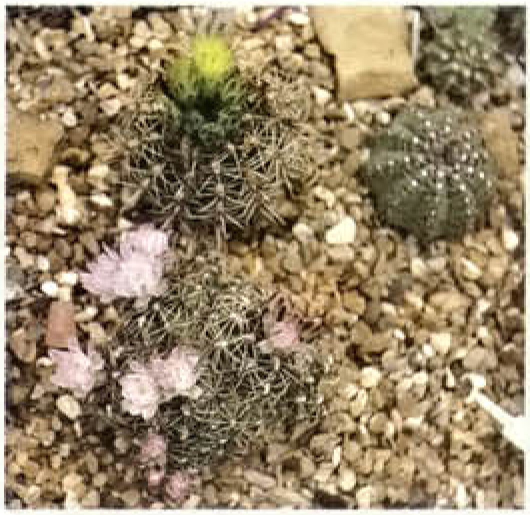
GYMNOCALYCIUM NIDULANS Backeb.

A dull brownish-green, solitary species about 4in in diameter with about 17 notched ribs. The areoles are yellowish gray with six to seven grayish radial spines, and occasionally one central. Flowers are pinkish white with a somewhat darker throat and are about 2in long. They are day flowering, in mid-summer. Requires normal cactus compost; very slight shade; minimum temperature 50°F. *Argentina (Mendoza).*



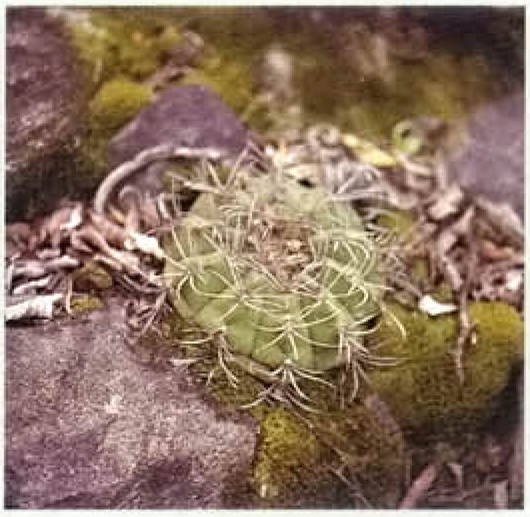
GYMNOCALYCIUM OCCULTUM Fric

The actual title is rather obscure – according to Borg it has a close relationship with *G. bodenbenderianum* and *G. stellatum*. This is featured in its habitat; the brownish-greenish stem is somewhat flattened and globular, with about 11 broad ribs, and three to five grayish radial spines. The flower is unknown. Culture is the same as for the majority of other species of the genus. *Argentina (Catamarca).*



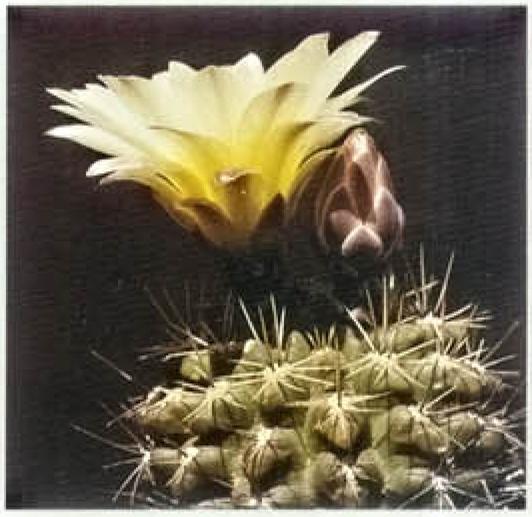
GYMNOCALYCIUM MULTIFLORUM (Hook.) Br. & R.

This species has slightly bluish-green stems to 3½in high, 4¾in wide, and freely clustering. There are 10–15 ribs with areoles bearing seven to ten yellowish or reddish radial spines up to 1in long, but no centrals. The flowers are a pale pinkish white, to about 1½in long, and are day flowering in mid-summer. Requires slight shade; normal cactus compost; minimum temperature 50°F. Also showing is the yellow-flowering *Gymnocalycium andreae* (Böed.) Backeb. (see above). *Argentina (Cordoba).*



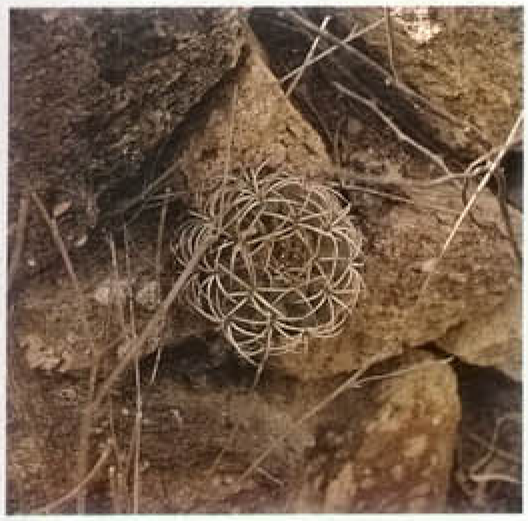
GYMNOCALYCIUM NIGRIAREOLATUM Backeb.

Globular, bluish-green plants about 6in in diameter with usually 10 broad ribs. The areoles are felted and yellowish brown; they bear seven to eight pinkish-gray spines about 1in in length. The ivory-white flowers have pale greenish outer segments; they are mid-summer flowering, and diurnal. Requires normal cactus compost; slight shade; minimum temperature 50°F. *Argentina (Catamarca).*



GYMNOCALYCIUM PLATENSE (Speg.) Br. & R.

Stems are green to bluish green, 3¼–4in high and up to 4in wide, with 12–14 ribs divided into obtuse warts. There is a prominent chin below each of the gray woolly areoles. These have five to seven radial spines, which are white, reddish at the base, and varying in size to about ⅔in long; there are no centrals. Flowers are white, with a reddish throat, and the outer segments bluish green externally. They are day flowering in mid-summer. Requires very light shade; normal cactus compost; minimum temperature 50°F. *Argentina (Buenos Aires).*



GYMNOCALYCIUM **PUGIONACANTHUM** Backeb.

A globular, solitary species about 4in in diameter with about 10 broad ribs. The areoles bear six to seven curved spines ½–¾in in length. Flowers are about 1½in long, 1¾in across, with creamy-white inner petals, reddish at the base, and greenish outer petals. They appear by day in mid-summer. Needs a bright position not in direct sun; normal cactus compost; minimum temperature 50°F. *Argentina (Catamarca).*

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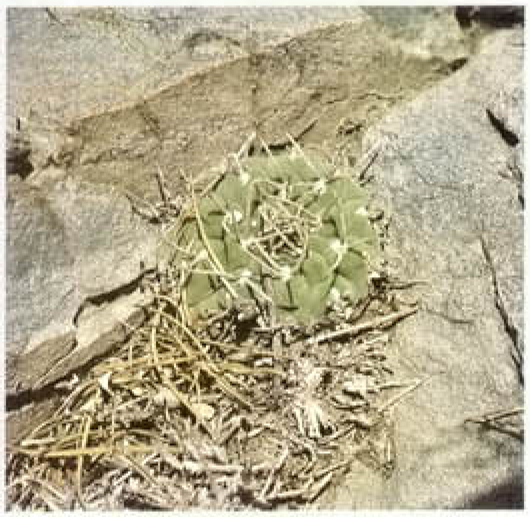

GYMNOCALYCIUM **QUEHLIANUM** (Haage) Berger

A very variable species, it is a dull grayish green, sometimes tinged reddish brown, about 3in in diameter. It has about 11 ribs divided into roundish warts and two to five horn-colored spines, all radials, up to ½in long. Flowers are white, sometimes with a small reddish throat, 2–3in long, and are day flowering in mid-summer. Needs fairly bright light; normal cactus compost; minimum temperature 50°F. *Argentina (Cordoba).*

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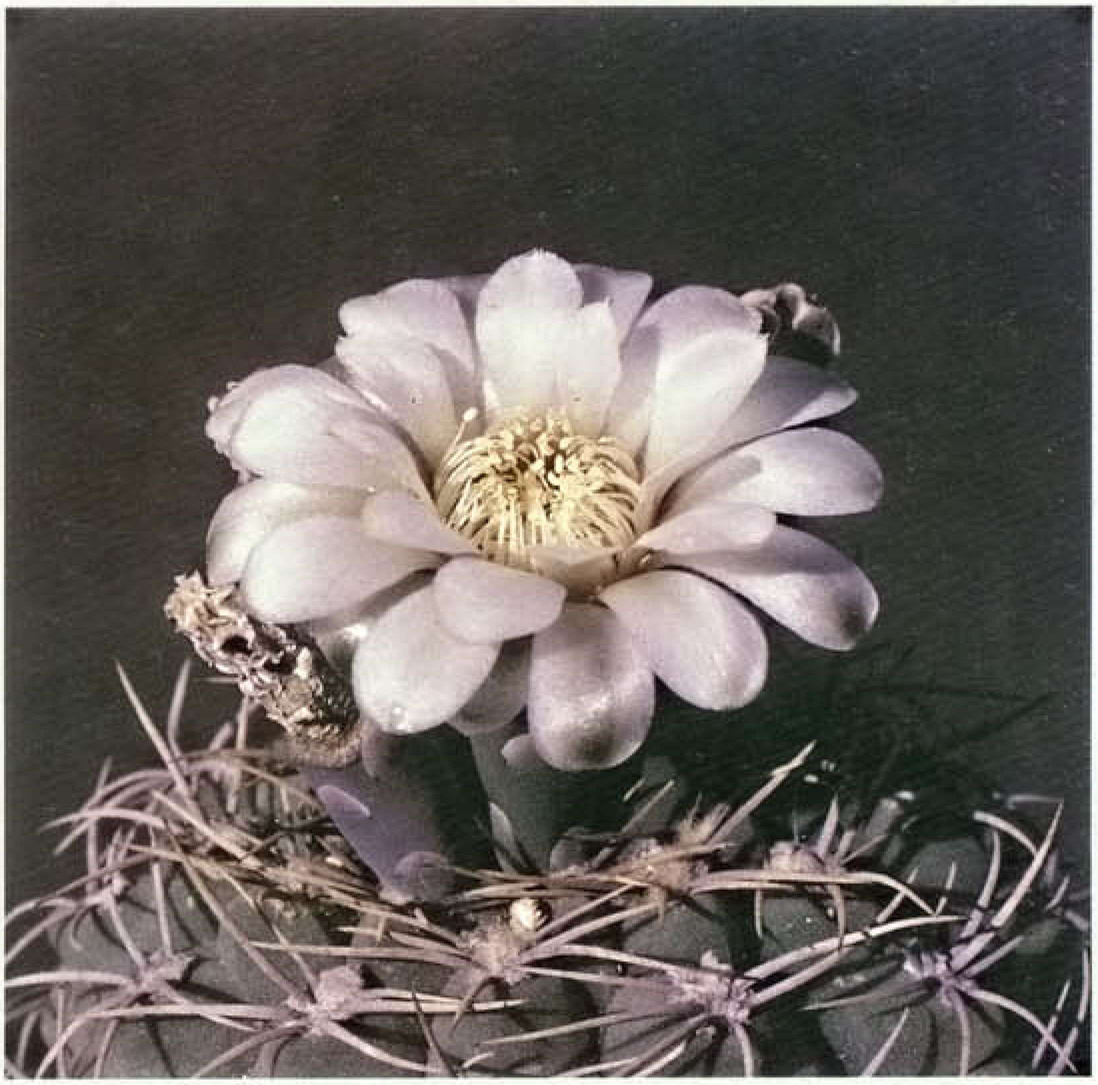

GYMNOCALYCIUM **QUEHLIANUM** (Haage) Berger var.

This is one of several varieties which differ in certain features from the species. The grayish-green, globular plant has about 15 prominent ribs and about seven widely spreading, pale brownish radial spines. The lilac-pink flowers bloom by day in mid-summer. Requires normal cactus compost; slight shade; minimum temperature 50°F. *Argentina (Cordoba).*

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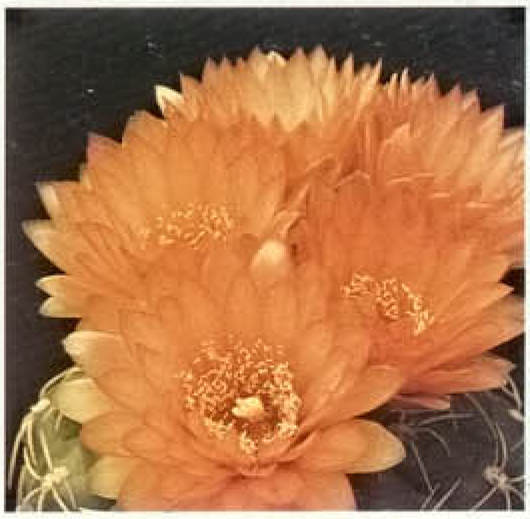

GYMNOCALYCIUM **cv. 'Reinelt'**

A product of Frank Reinelt of the USA who strove to cross-pollinate so as to produce very attractive plants, both in spination and flower. The parentage of this hybrid is not recorded. Culture is the same as for other *Gymnocalycium* species.

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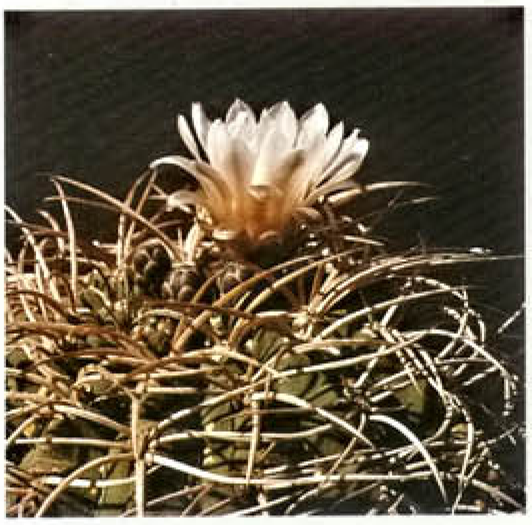

GYMNOCALYCIUM **RIOJENSE** Fric

A brownish-green or dull-greenish globular plant about 3¼in high, 4in wide with about 15 broad ribs. The areoles are ½in apart, bearing five to seven pale brownish-yellow spines up to about ¾in long. The flowers are about 1⅓in across and are diurnal, flowering in summer. They have reddish sepals and whitish petals with a reddish midstripe. Requires very light shade; normal cactus compost; minimum temperature 50°F. *Argentina (La Rioja).*

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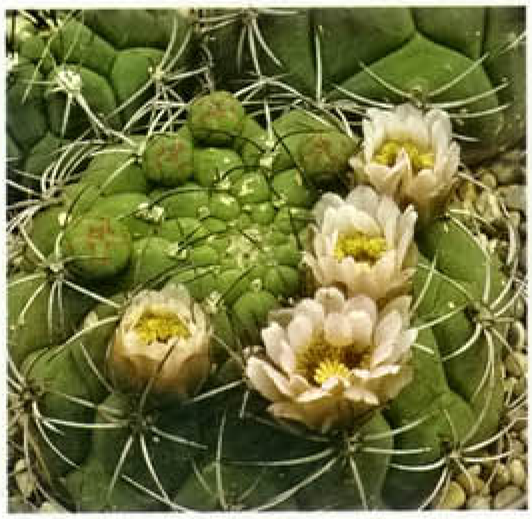

GYMNOCALYCIUM **SAGLIONIS** (Cels) Br. & R.

A large, rather flattened globular plant up to about 1ft in diameter. There are 10–30 or more ribs with prominent rounded tubercles and areoles bearing seven to fifteen brown and yellowish radial spines and about three centrals, all up to about 1½in long. Flowering in mid-summer, the plant is diurnal; flowers are a pale pinkish white, about 1⅓in long. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Argentina (Salta, Tucuman, Catamarca).*

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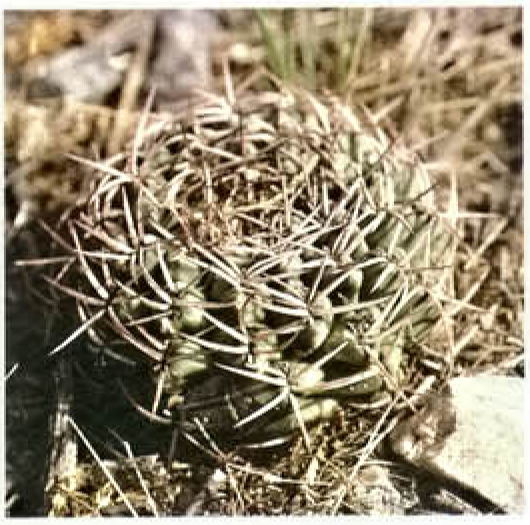

GYMNOCALYCIUM **SCHICKENDANTZII** (Weber) Br. & R.

A very dark olive-green, globular plant to about 4in in diameter. It has seven to fourteen ribs, bearing five to seven reddish to horn-colored radial spines up to 1in in length. The flowers are white to reddish, olive green externally, and about 2in long. Late summer flowering, the plant is diurnal. Needs a fairly sunny position; normal cactus compost; minimum temperature 50°F. *Argentina (Cordoba, Salta).*

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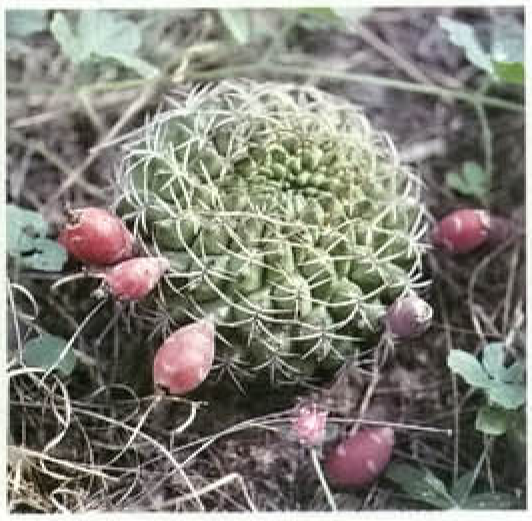

GYMNOCALYCIUM **SCHICKENDANTZII var. DELAETII** (K. Sch.) Backeb.

A roundish, bright-green variety divided into roundish warts. The areoles bear about seven horn-colored radial spines and red flowers. Requirements are the same as for the species. *Argentina (Salta).*

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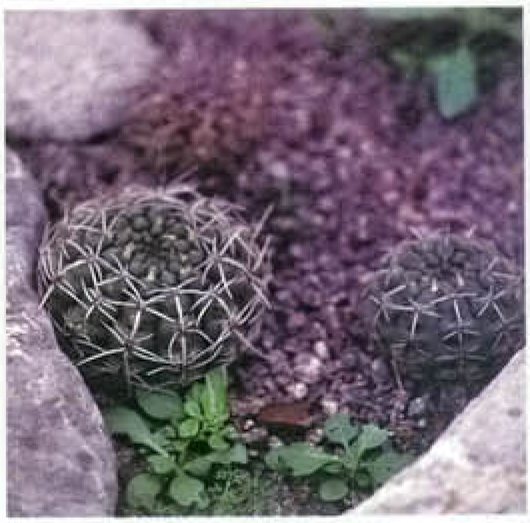

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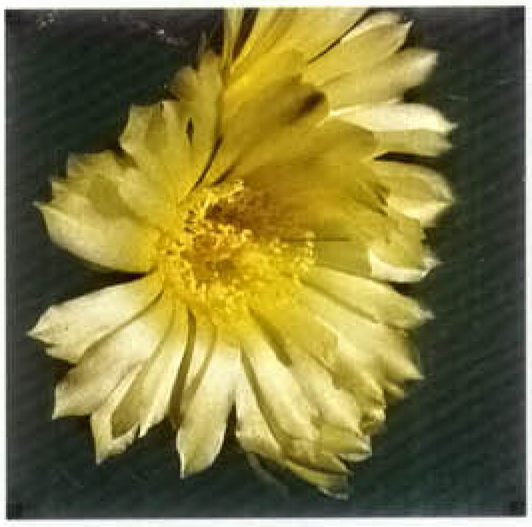

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GYMNOCALYCIUM **SCHROEDERIANUM var. OSTEN**

A globular plant, dark green in color, with 12 or more ribs divided into warts. The areoles are brownish and bear five to seven yellowish radial spines which are slightly reddish at their base. The greenish-white flowers, about 3in long, are diurnal, flowering in mid-summer. Needs protection from the midday sun; normal cactus compost; minimum temperature 50°F. *Uruguay.*

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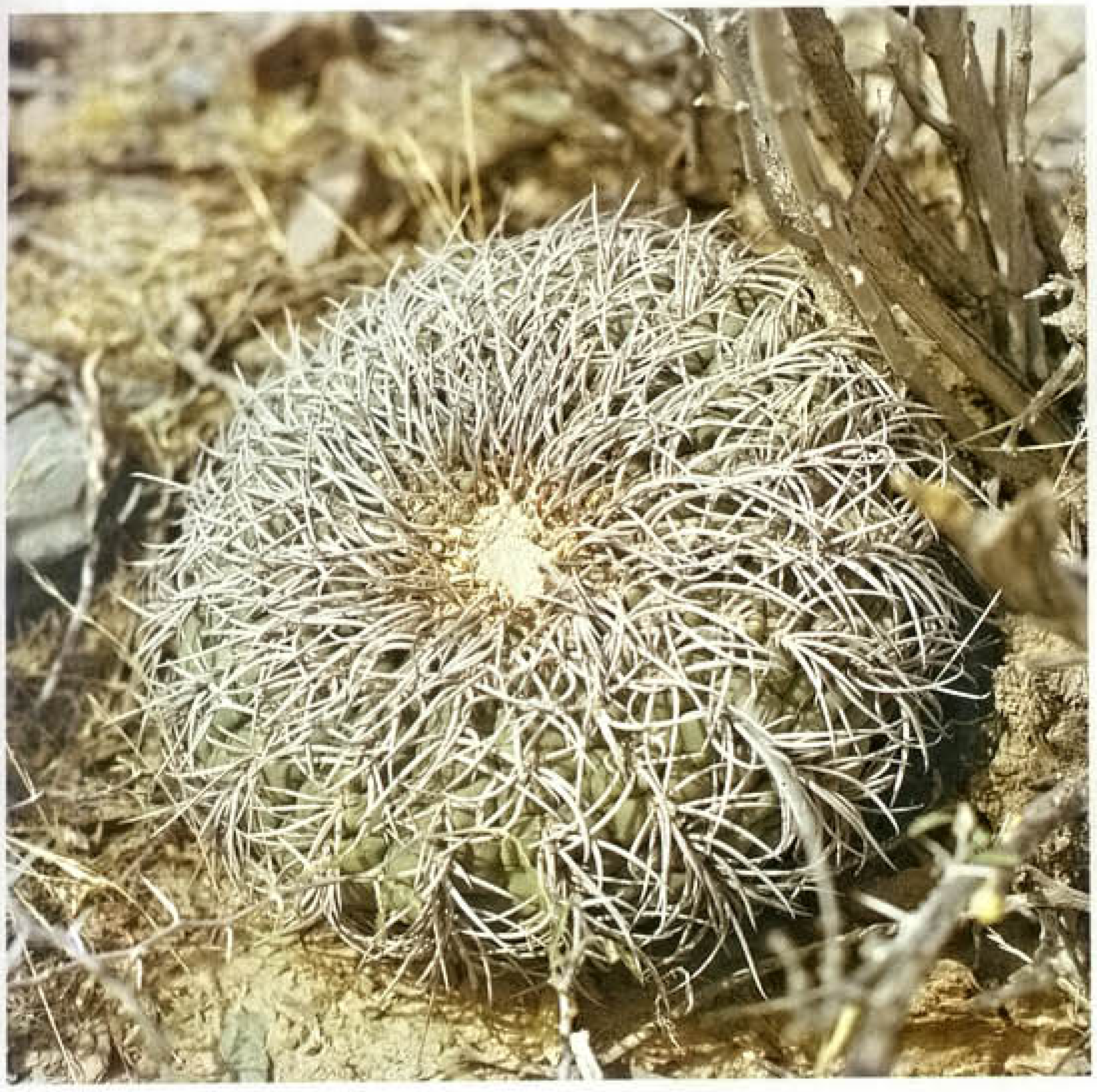

GYMNOCALYCIUM **SPEGAZZINII** Br. & R.

This solitary, globular species is very popular. Bluish green or grayish green to brownish in color, it is up to about 7in in diameter. There are 10–15 ribs and the yellowish-gray areoles bear reddish-brown to grayish spines, five to seven somewhat curved radials to 2¼in long, and occasionally one central. Flowers are white or pinkish white with a reddish throat and 2½–3in long, and are day flowering in mid-summer. Needs slight shade; normal cactus compost; minimum temperature 50°F. *Argentina (Salta).*

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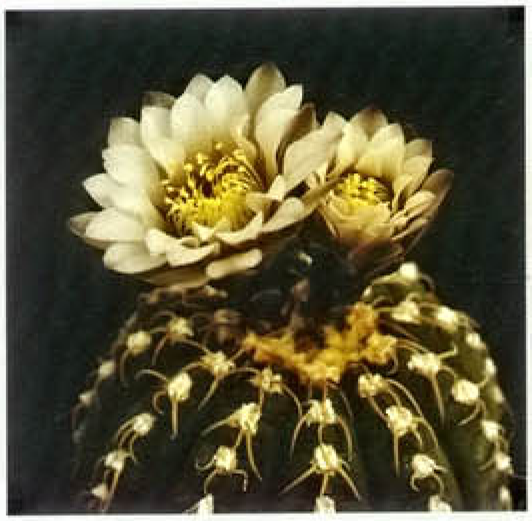

GYMNOCALYCIUM **TRIACANTHUM** Backeb.

A brownish or grayish-green globular species with about 12 flattish rounded ribs. The spines are yellowish gray, usually three in number, occasionally up to five. Flowers are white, 1⅓in long, and day flowering in summer. Needs good light; normal cactus compost; minimum temperature 50°F. *Argentina.*

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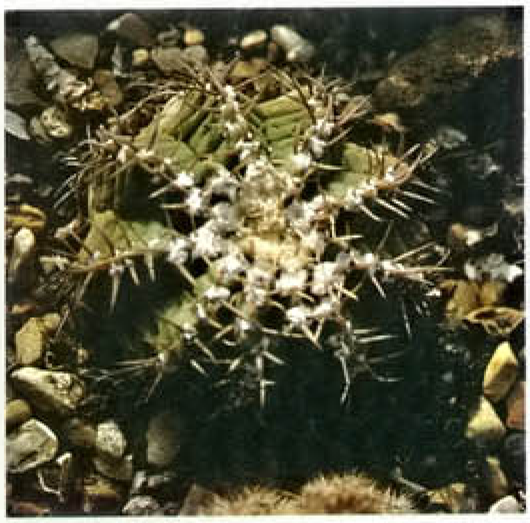

GYMNOCALYCIUM **VATTERI** Buin.

The stems are olive green to about 1½in high, 3½in in diameter, with eight to 16 broad ribs about 1in high. The grayish areoles have one to three (up to five) yellowish-brown, adpressed spines. Flowering diurnally in summer, the flowers are white, sometimes with a reddish center, and about 2in long, 1½in across. Requires good light; normal cactus compost; minimum temperature 50°F. *Argentina (Cordoba).*

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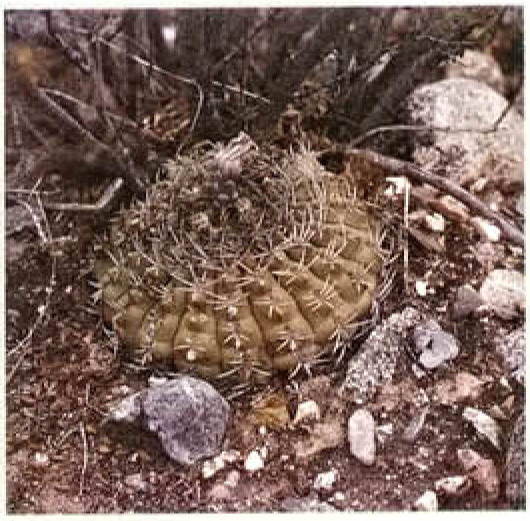

GYMNOCALYCIUM **WEISSIANUM** Backeb.

A variable species, grayish green, and more or less globular to 3½in high, 5½in wide. It has about 19 ribs with slightly woolly areoles bearing bright, grayish-white spines consisting of six to eight radials to 1in long and one central. The flowers are pale reddish brown with a darker throat. Flowering in mid-summer, it is diurnal. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Argentina (Mazan).*

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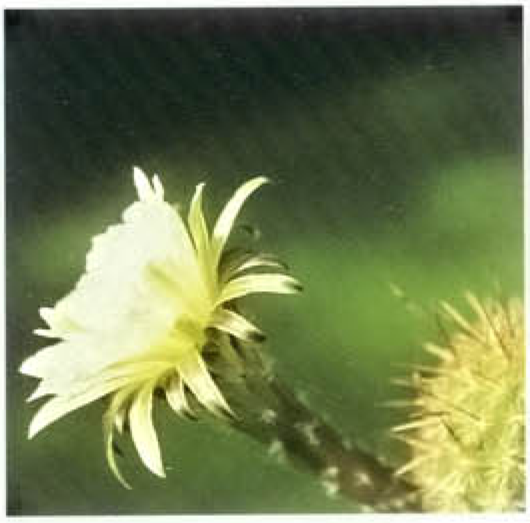
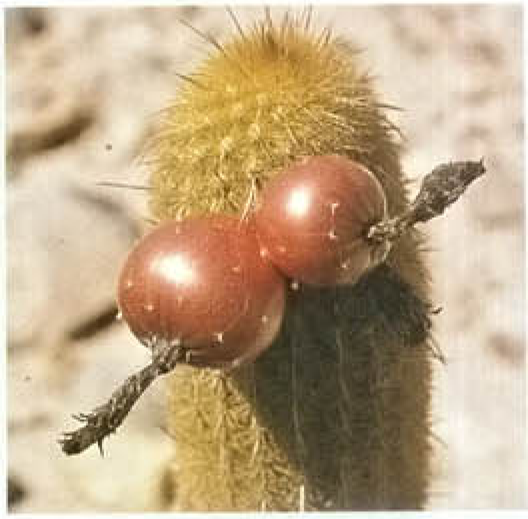


HAAGEOCEREUS **ACRANTHUS** (Vaup.) Werd. & Backeb.
Syn: *Cereus acranthus* Vaup.; *Binghamia acrantha* Br. & R.

A tall plant, it has thick clustering stems with 10–14 thick, slightly notched, low ribs. The areoles are closely set, bearing many yellow radial spines and one or two more brownish centrals up to ¾in in length. Flowering at night in summer, the blooms are pale pinkish or greenish white, 2½–3¼in long. Needs bright light; normal cactus compost; minimum temperature 50°F. *Peru.*



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HAAGEOCEREUS **AUREISPINUS** Rauh & Backeb.

Bright green columnar plants, 2ft 7in tall, 2½–3¼in in diameter, with 18–20 ribs. The yellowish areoles bear 30–40 radial spines to ½in long and one or two brownish-yellow centrals to 1½in. Flowers nocturnally in summer from near the tip of the stems. They are pure white, 2½–3in long and 1in in diameter, the tube scaly and woolly. Large globular fruits follow flowering, up to 2in long, and wine red. Careful watering is necessary, keep dry in winter. Requires a bright position; normal cactus compost; minimum temperature 55°F. *Peru (Canta).*

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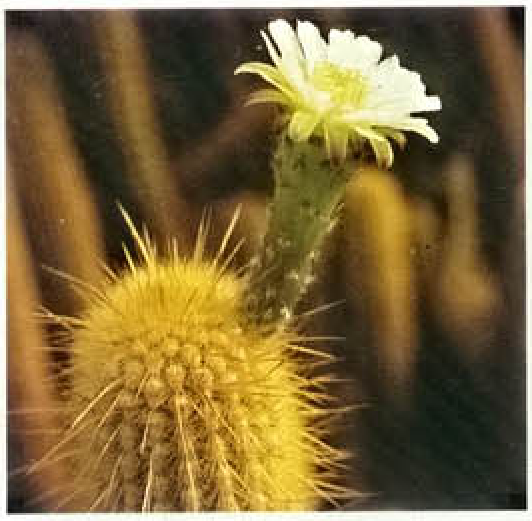
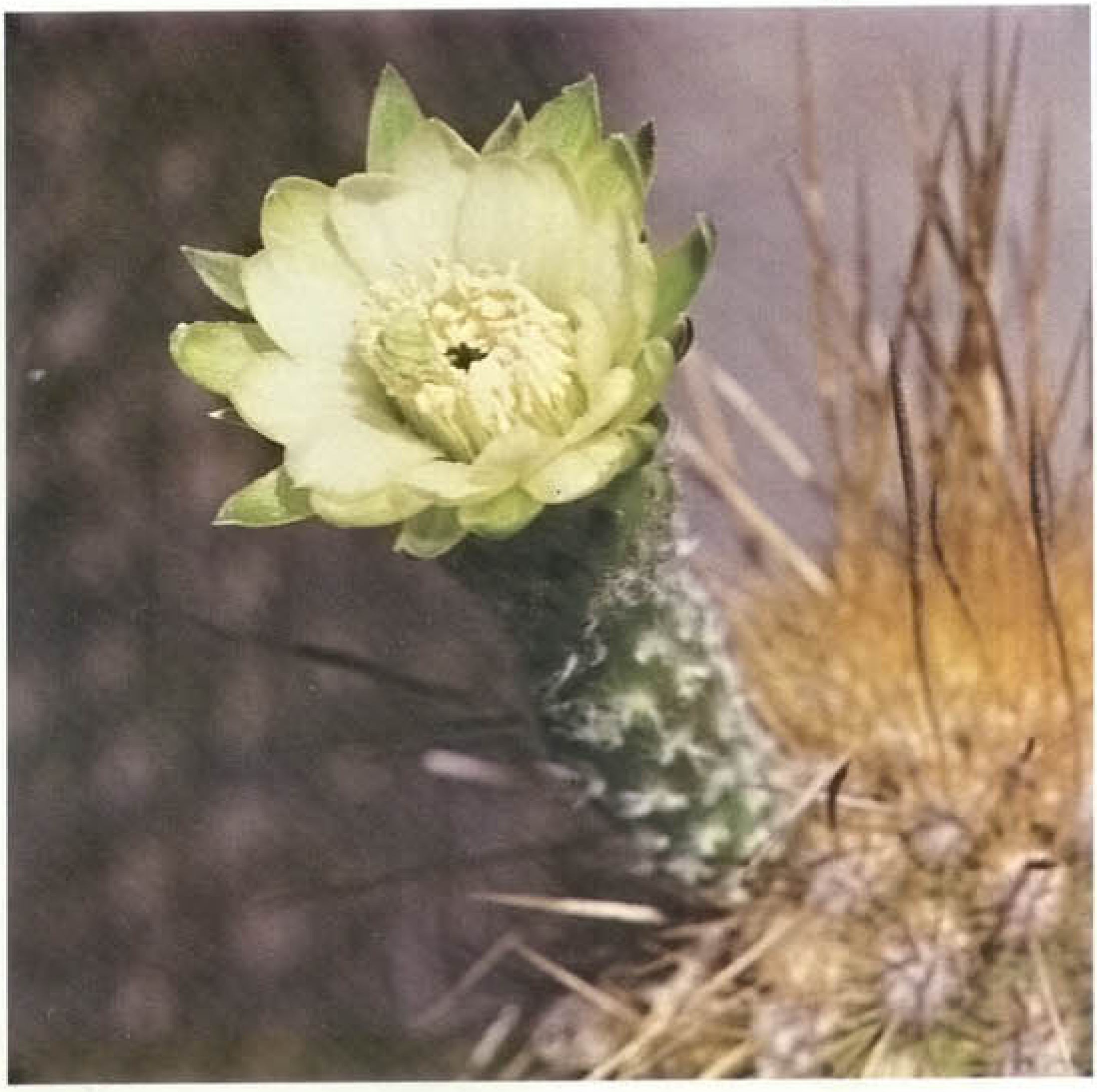
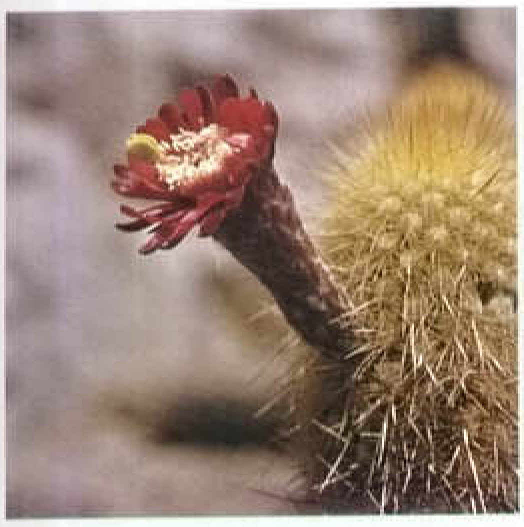


HAAGEOCEREUS **ACANTHOCLADUS** Rauh & Backeb.
Syn: *Haageocereus multangularis* (Haw.) Ritter

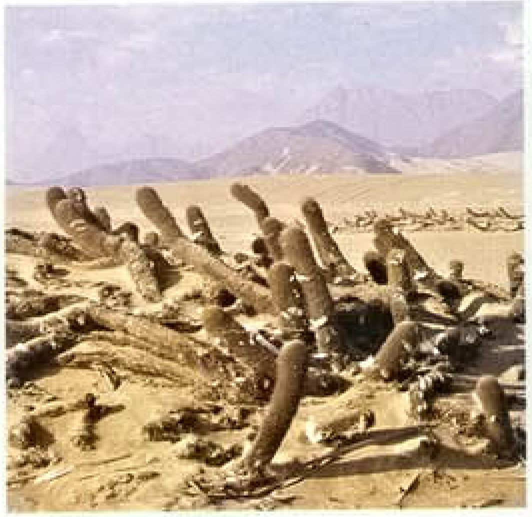
A dark green columnar plant to 2ft 4in high, 2½in in diameter, with about 18 ribs. The areoles are large, woolly and fairly closely set, with many yellowish radial spines to ⅔in in length, and one or two more centrally placed to about 2in long. Flowers nocturnally, in summer, about 4in long including the long green scaly tube, with white inner petals and reddish-tipped outer petals. Needs sun; normal cactus compost; minimum temperature 50°F. *Central Peru.*





HAAGEOCEREUS **CHOSICENSIS** (Werd. & Backeb.) Backeb.

A dark green, columnar plant up to 4ft 9in tall, 2½–4in in diameter, with 18–26 ribs. Areoles are yellowish-white bearing about 30 or more yellowish-white, sometimes reddish radial spines and bristles, and one to four centrals up to ¾in in length. Flowering in summer, it is nocturnal. The flowers are variable, being mostly carmine red, but sometimes white, 2½–3in long with a brownish-red scaly tube. Needs sun; a porous cactus compost; minimum temperature 55°F. *Central Peru (Chosica).*



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HAAGEOCEREUS **REPENS** Rauh & Backeb.

A trailing, cylindrical-stemmed plant. The grayish-green stems are up to about 6½ft long, 3¼in thick with about 19 ribs and dark-yellowish areoles. Spines are dull yellow; there are about 40 radials to ½in long and one or two brighter yellow centrals ⅔in in length. The flowers, nocturnal and appearing in mid-summer, are pure white and up to 3in long, 1⅓in wide. Needs sun; an enriched mineral-based compost; minimum temperature 55°F. *Northern Peru (Trujillo).*

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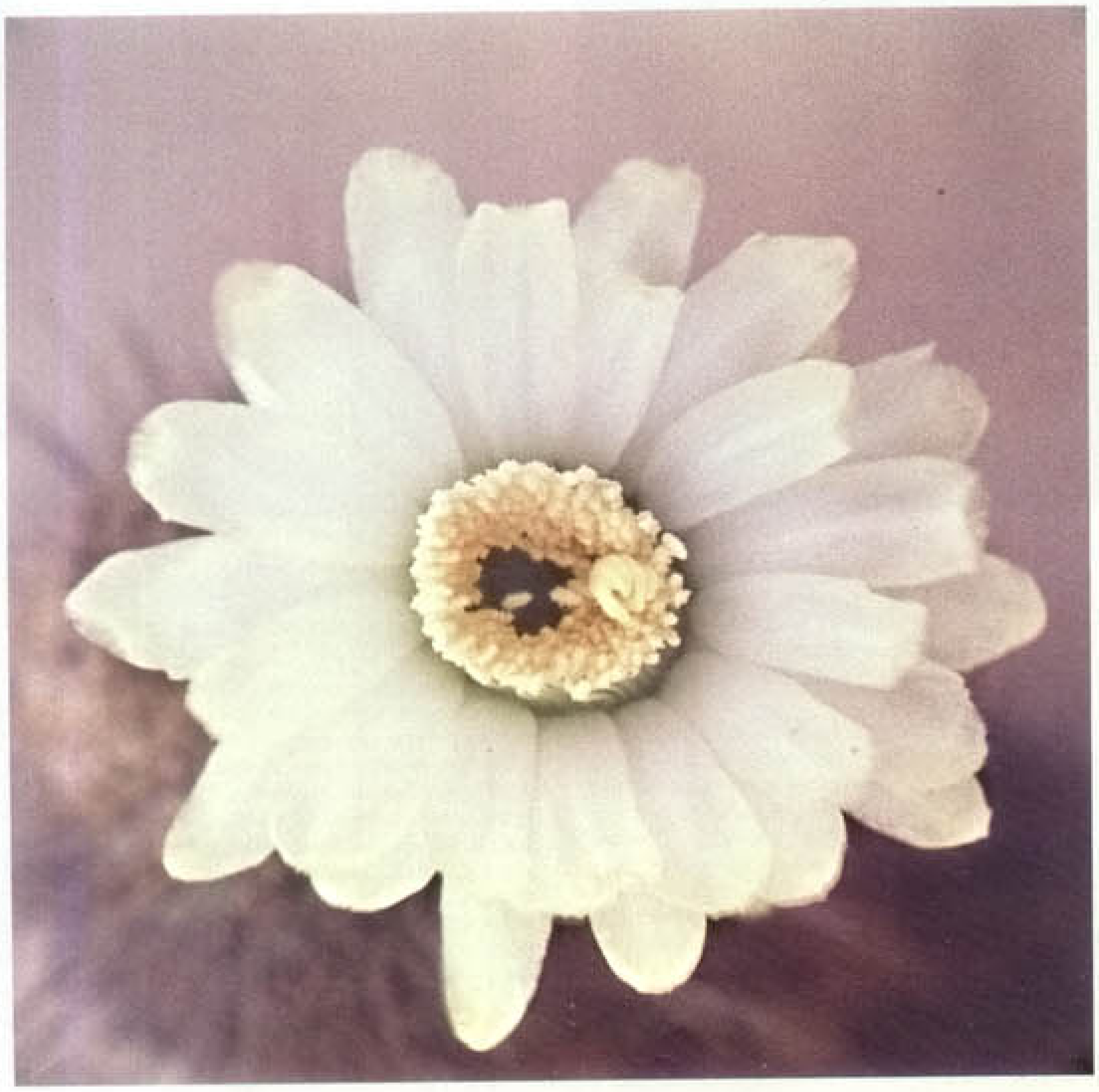
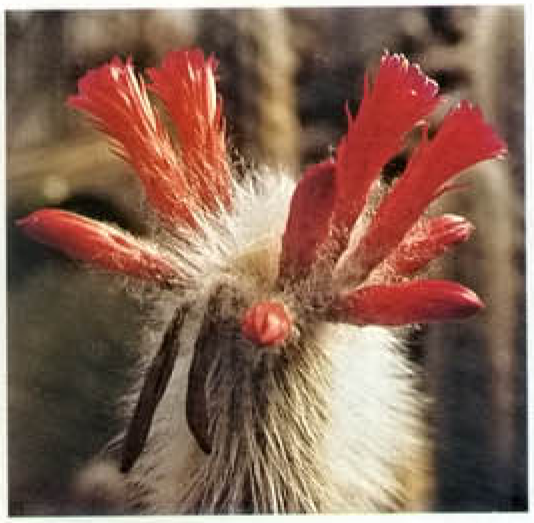
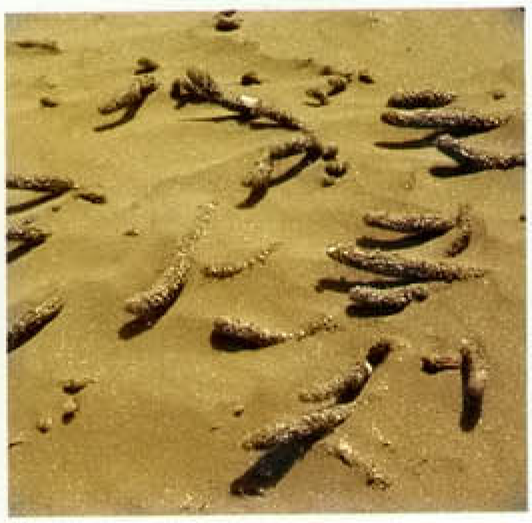




HAAGEOCEREUS **SETOSUS** (Akers) Backeb.

Ritter considers this a variety of *H. multangularis* (Willd.) Ritter. Erect, columnar plants 3–10ft tall. The dull green stems, about 2½in in diameter, have 20–21 ribs and pale brownish areoles set fairly close together. Spines are yellow and numerous, and include many bristles which are fine, hair-like, and flexible, about ¾in long, and often whitish. Summer flowering and nocturnal, the flowers are about 2in long, deep scarlet, with a similarly colored tube. Requires full sun; a porous cactus compost; minimum temperature 55°F. *Peru (South of Lima).*



HAAGEOCEREUS **TENUIS** Ritter

A recent discovery of which little is known, this is a totally prostrate species from sandy desert regions. The stems are green, ¾–1in thick with 12–15 ribs and crenate margins. Areoles are ⅛in wide, silver gray, and set ⅕–⅓in apart. Of the brownish or almost black spines, about 30 are radials ⅛in long, and seven to ten are centrals up to ¾in in length. Flowers are unknown. Undoubtedly requires full sun; an enriched mineral compost; minimum temperature 55°F. *Peru (Lima).*

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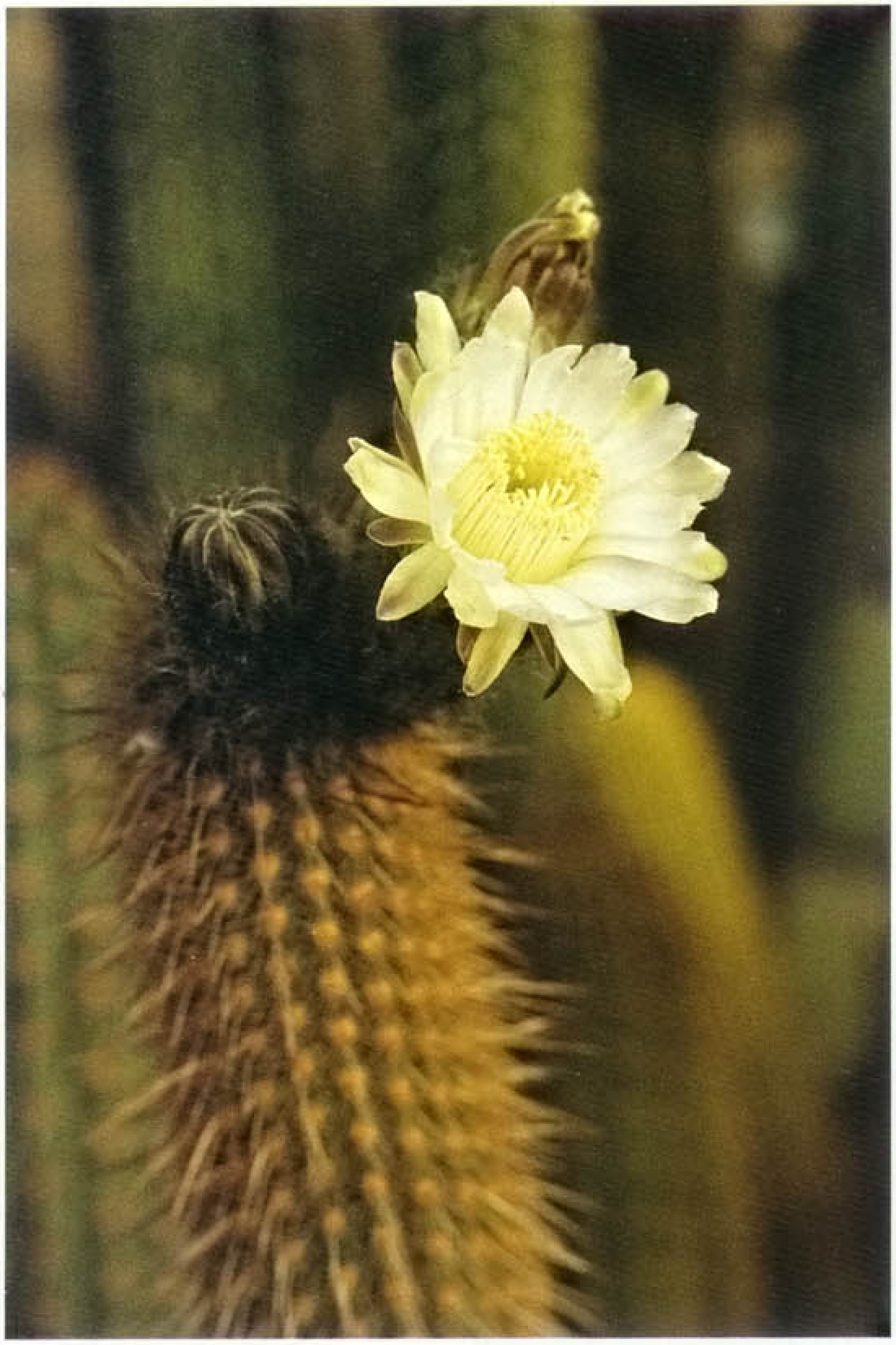

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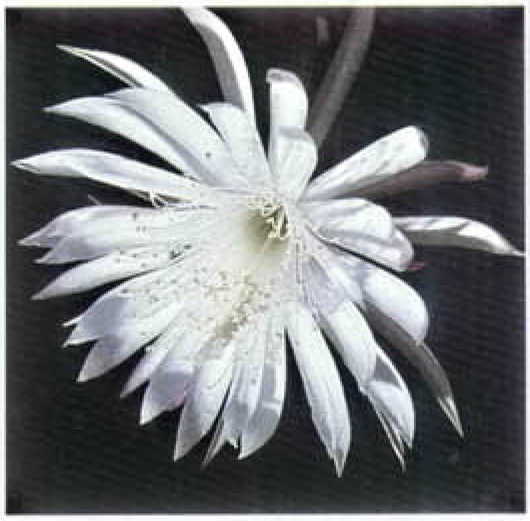
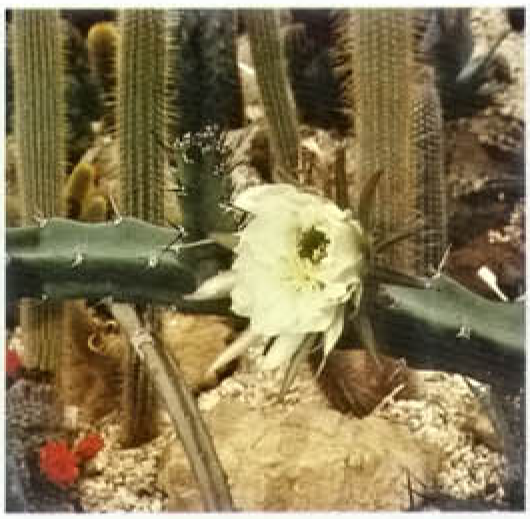
HAAGEOCEREUS VERSICOLOR (Werd. & Backeb.) Backeb.

A truly desert species, it is columnar, 3–6½ft tall, with dark-green stems 2–2½in in diameter, and 16–22 ribs. The round areoles are brown, bearing spines in a variety of colors – reddish, brown, or yellowish. There are 25–30 radial spines about ⅕in long and one or two centrals up to 1½in in length. Flowers are white, green externally, about 3¼in long, 2½in across when fully open; they are nocturnal, in summer. Needs full sun; an enriched mineral compost; minimum temperature 55°F. *Northern Peru*.



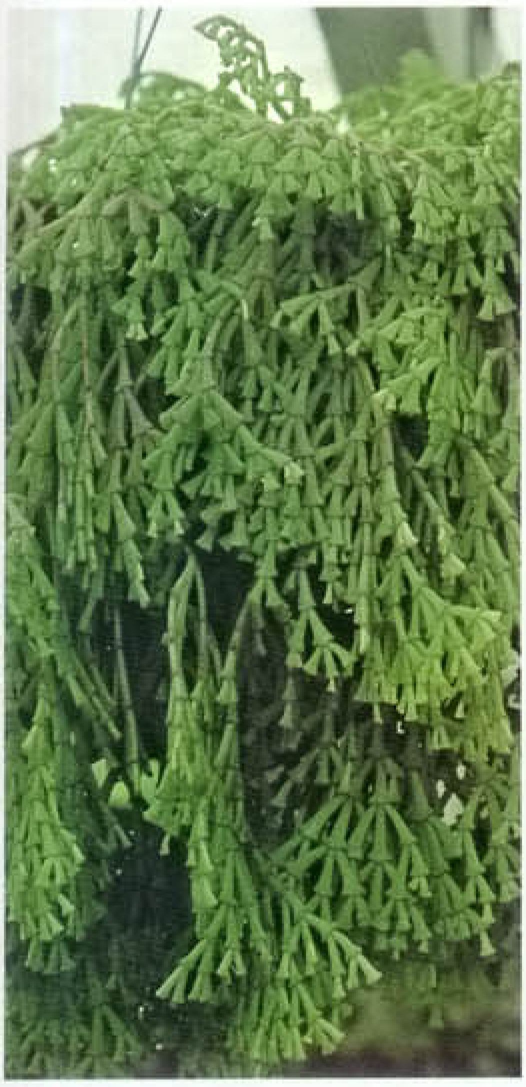
HARRISIA GRACILIS (Mill.) Br. & R.

A rather sprawling plant, the dark-green stems often 15ft or more long, 1⅓in thick. There are nine to eleven closely set ribs and white areoles, ¾in apart, bearing 10–16 black-tipped white spines up to 1in long. Flowers are nocturnal in late summer appearing from the upper areoles. They are about 8in long, white with pale-brownish outer petals. Requires slight shade; normal cactus compost; minimum temperature 59°F. *Jamaica*.



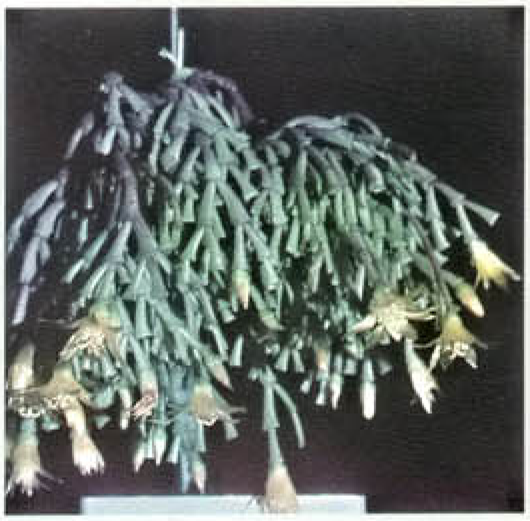
HARRISIA GUELICHII (Speg.) Br. & R.
Syn: *Eriocereus guelichii* Berger

A slender-stemmed trailing or sprawling species with pale green stems ¾–1½in thick. It has three to four prominent angular ribs with shallow grooves between them. Areoles are grayish, ¾–2½in apart, bearing reddish, later becoming gray, spines tipped black or dark brown with four to five radials up to ⅕in long and one central, about 1in in length. Nocturnal flowering in early summer, the flowers are white, greenish externally, and 10in long. Needs a sunny position; normal cactus compost; minimum temperature 50°F. *Argentina*.



HATIORA **EPIPHYLLOIDES** (Campos-Porto & Werd.) Buxb.
Syn: *Pseudozygocactus epiphylloides* (Campos-Porto & Werd.) Backeb.

A choice rare epiphyte with long, jointed, pendent stems. Each joint is up to 1in long, ½in wide, bright green with minute spineless areoles. The flowers are yellowish, about ½in long, and are day flowering in spring. Difficult in cultivation, it is best grafted on robust stock. Requires partial shade; normal cactus compost; minimum temperature 55°F. *Brazil (Sao Paulo, Rio de Janeiro).*



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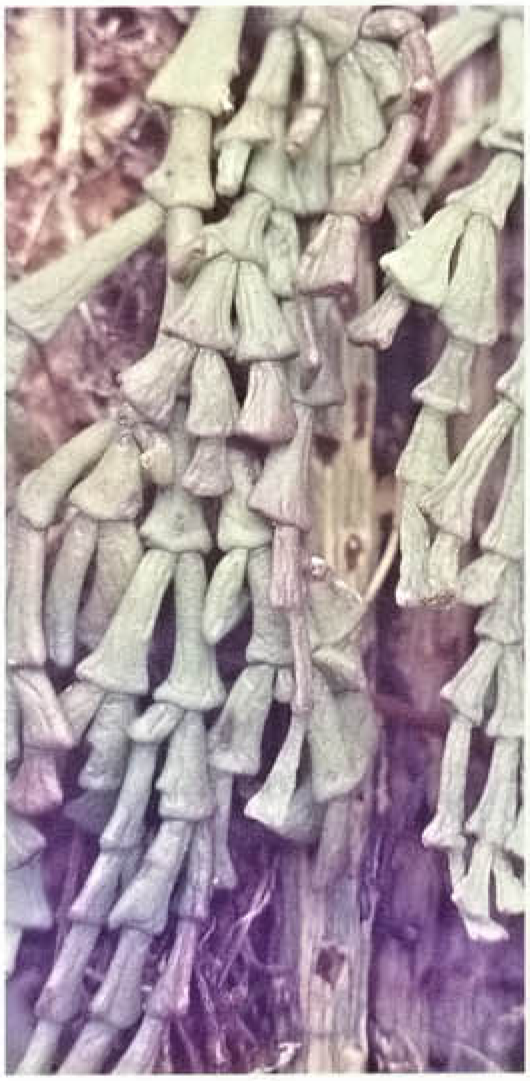

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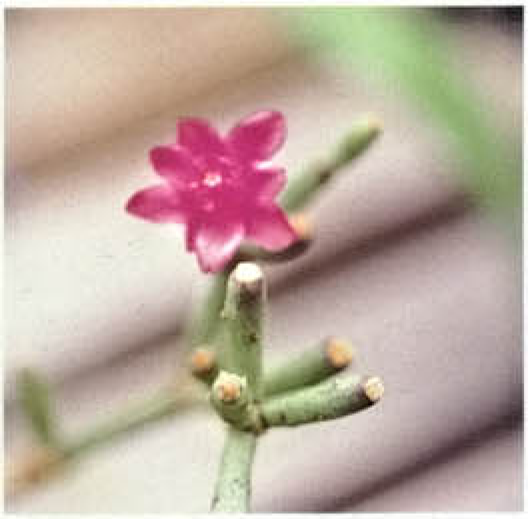
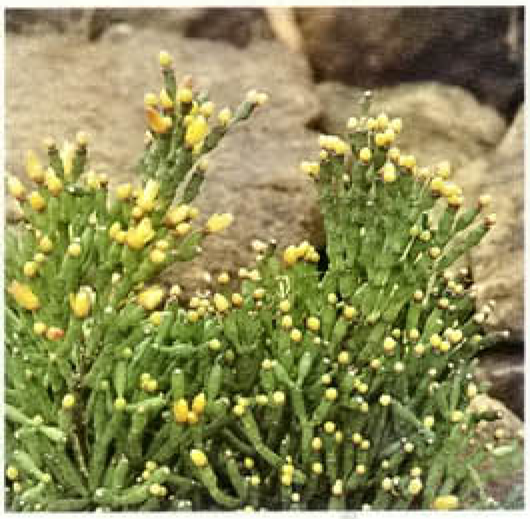
HATIORA **EPIPHYLLOIDES** (Campos-Porto & Werd.) **fma BRADEI** P. V. Heath
Syn: *Pseudozygocactus epiphylloides* var. *bradei* (Campos-Porto) Backeb.

An epiphyte from forest regions. The pendant segmented branches are 2ft or more long. Each joint or segment is ⅕in wide, ½–⅔in long, somewhat hatchet-shaped, and dull to bright green. Day flowering in spring, the flowers are pale yellowish, ⅔–¾in in diameter. It is not too easy in cultivation and is best grafted. Requires shade; normal cactus compost; minimum temperature 55°F. *Brazil (Serra Bocaina).*



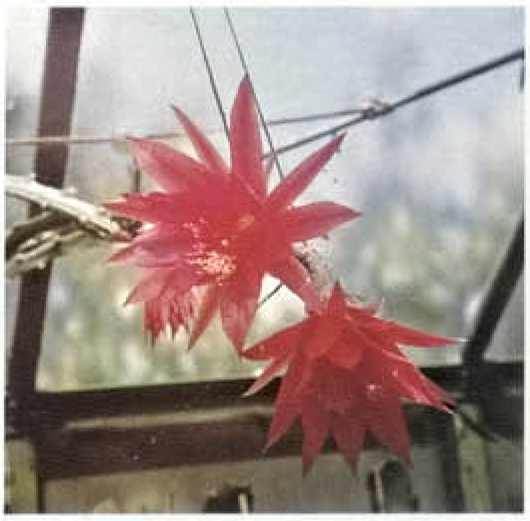
HATIORA **HERMINIAE** (Campos-Porto & Cast.) Backeb. ex Barthlott
Syn: *Hariota herminiae* Backeb.

An epiphytic species with dull grayish-green stems, more or less cylindrical in shape and about ⅕in thick. It has small, short joints ¾–2in long with blunted tips and a very few pale-brownish areoles, these rarely having one or two minute bristles. The flowers are rose pink, to ¾in long, 1in broad, and appear by day in late spring. The plant is best grafted. Needs filtered light; normal cactus compost; minimum temperature 55°F. *Brazil (Campos do Jordao).*



HATIORA **SALICORNIOIDES** (Haw.) Br. & R.

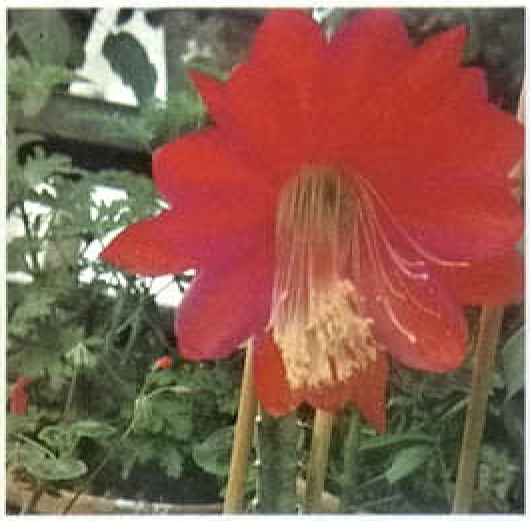
A pale to deep green semi-erect, bushy plant up to 1ft 3in high, freely branching. In its habitat it is epiphytic or saxicolous. The joints are bottle-shaped, arranged in whorls of two to five, and ½–1in long, ⅕–⅓in thick. Flowering in spring, it is diurnal. The flowers occur on the tips of the newer areoles, and are golden yellow, about ½in long, slightly less wide when fully open. Needs slight shade; normal cactus compost; minimum temperature 50°F. *Brazil (Rio de Janeiro, Minas Gerais).*



HELIOCEREUS CINNABARINUS (Eichl.) Br. & R.

Syn: *Cereus cinnabarinus* Eichl.

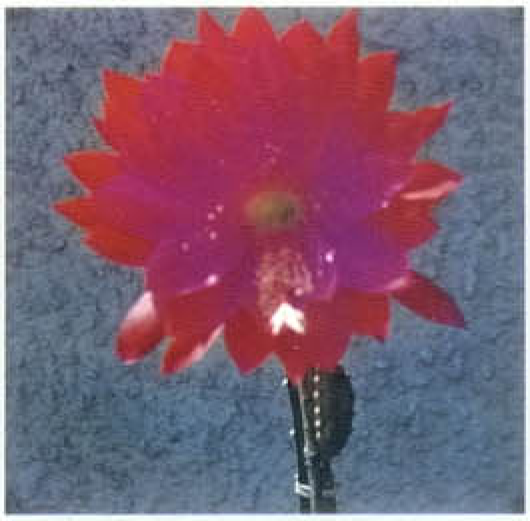
A trailing, clambering plant with three-angled, dark-green stems 1ft 3in–2ft long, ¾–1in thick, with rather serrated angles. Areoles are prominent with a few short, bristly yellowish-brown spines about ¼in in length. Flowering by day in mid-summer, the flowers are 3¼–3½in across fully expanded and up to 6in long, with greenish-red outer petals and inner petals a glossy cinnabar red. Requires bright light but not full sun; normal cactus compost; minimum temperature 50°F. *Guatemala.*



HELIOCEREUS SPECIOSUS (Cav.) Br. & R.

Syn: *Cactus speciosus* Cav.

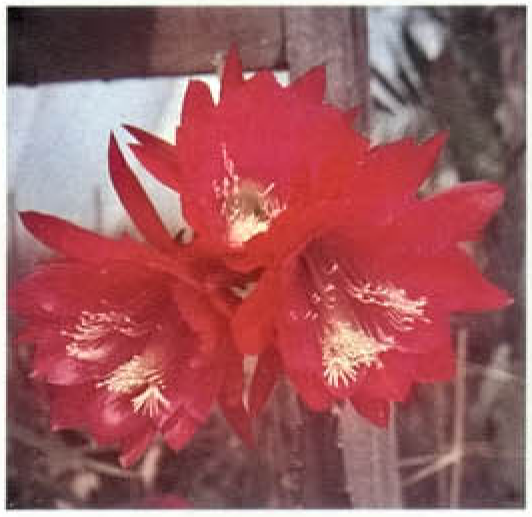
This species is either erect or trailing, rarely epiphytic. Stems are up to 3ft long, ¾–1in thick, and dark green, the growing points more reddish green. There are three to five ribs with slightly serrated margins. The areoles are whitish with five to eight yellowish or pale-brownish spines ½–⅔in long. Flowers by day in early summer, the flowers are 4¾–6in long, carmine red with a bluish sheen on the inner petals, borne on a green tube 3¼in long. Requires half-shade; a rich, slightly acid soil; minimum temperature 50°F. *Central Mexico.*



HELIOCEREUS SPECIOSUS var. SERRATUS Weingt.

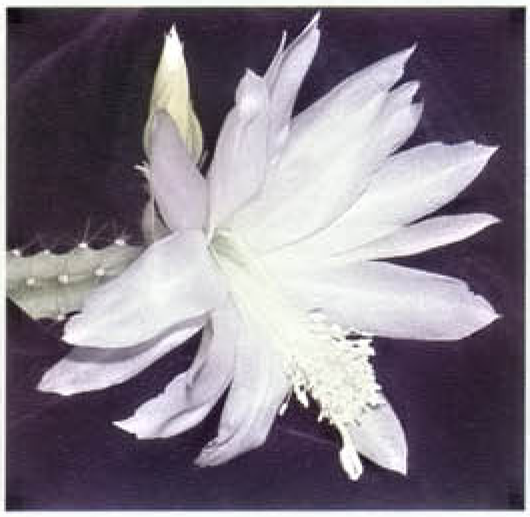
Syn: *Heliocereus serratus* Weingt.

Erect, dull-green, three to four-angled stems, prominently serrated. In general, the stems are considerably shorter than those of the species. The areoles are pale brown with a few very small yellowish spines, often absent. Flowering by day in summer, each bloom is 3¼–4in across, with purplish-red inner petals, and reddish outer petals, the petals outnumbering those of the species or other varieties. Requires semi-shade; normal cactus compost; minimum temperature 55°F. *Guatemala.*



HELIOCEREUS Sp. nova

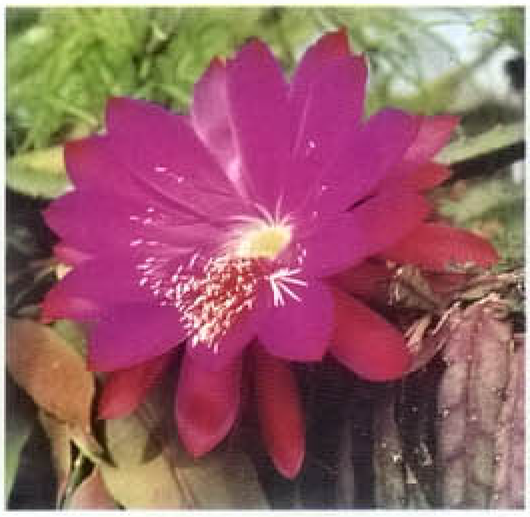
An undescribed plant discovered by the late Charles Lankester many years ago, and rarely encountered in cultivation. The stems are more or less erect, brownish green, and three-angled, and the areoles are set ½–1in apart with brownish wool and three to four fine spines to ½in long. Flowers appear from the tips of the stems in summer, remaining open for two or three days, both night and day. The bright scarlet-red blooms are somewhat trumpet shaped, 3¼–3½in long and across. Requires slight shade; normal cactus compost; minimum temperature 55°F. *Guatemala, ?Costa Rica.*



HELIOCEREUS SPECIOSUS var. AMECAMENSIS (Heese) Weingt.

Syn: *Heliocereus amecamensis* (Heese) Br. & R.

A very localized plant in its habitat with pendant stems similar to the species. The large, white flowers make an impressive display in mid-summer during the day; the flowers are about 5½in long from the tips of the stems. Requires semi-shade; an enriched porous compost; minimum temperature 55°F. *Mexico (Amecameca).*

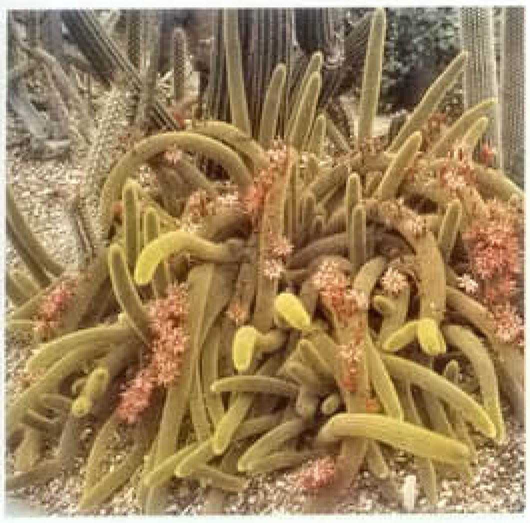


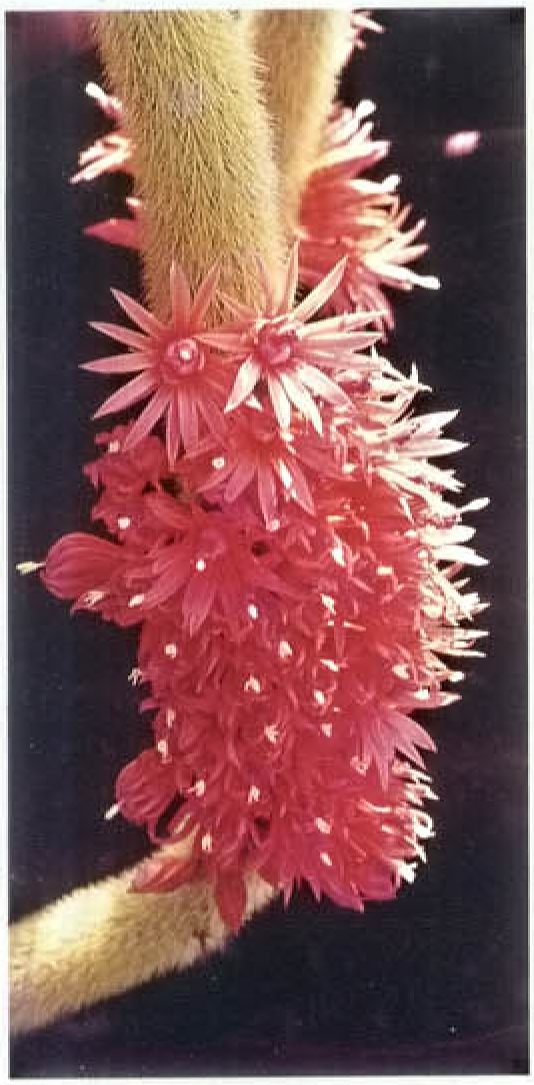
HELIOCEREUS SPECIOSUS var. SUPERBUS Ehrenb.

Syn: *Heliocereus superbus* (Ehrenb.) Berger

Very similar in growth habit to the species, but the stems are three- to seven-angled. Areoles are brownish with a few spines which often quickly fall. The flowers are about 6in across when fully expanded and are a rich glossy purplish red, with red outer petals. They are diurnal, in summer. Needs filtered light; normal cactus compost; minimum temperature 50°F. *Central Mexico.*

HILDEWINTERA

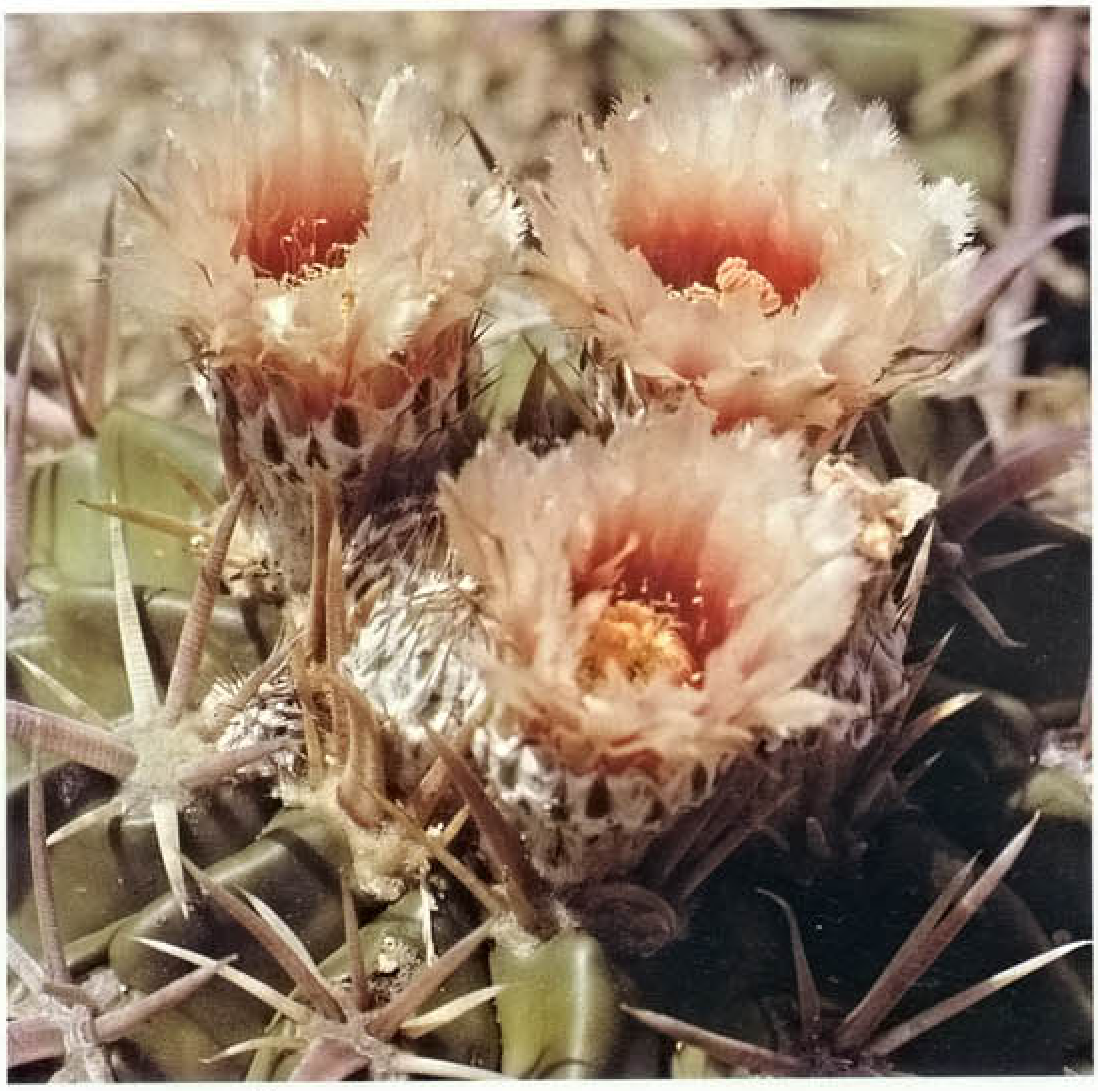




HILDEWINTERA AUREISPINA (Ritter) Ritter
Syn: *Winteria aureispina* Ritter;
Winterocereus aureispinus (Ritter) Backeb.;
Loxanthocereus auriespinus (Ritter) Buxb.;
Cleistocactus aureispinus (Ritter) D. R. Hunt

This is a columnar, branching, spreading, and trailing plant with green stems up to ⅔in long, 1in thick, and 16–17 ribs. The areoles bear about 50 yellow spines ⅕–½in in length. Flowering in summer, by day. Each bloom is 1½–2½in long, 2in across, and various shades with a reddish midstripe to the petals. Requires sun; normal cactus compost; minimum temperature 50°F. *Bolivia (Florida).*

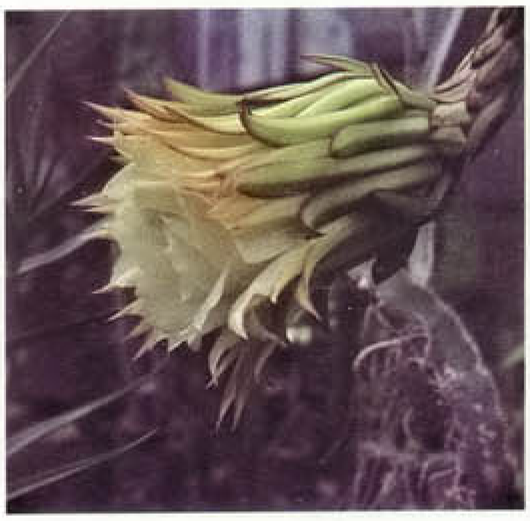
HOMALOCEPHALA



HOMALOCEPHALA TEXENSIS (Hopff.) Br. & R.
Syn: *Echinocactus texensis* Hopff.

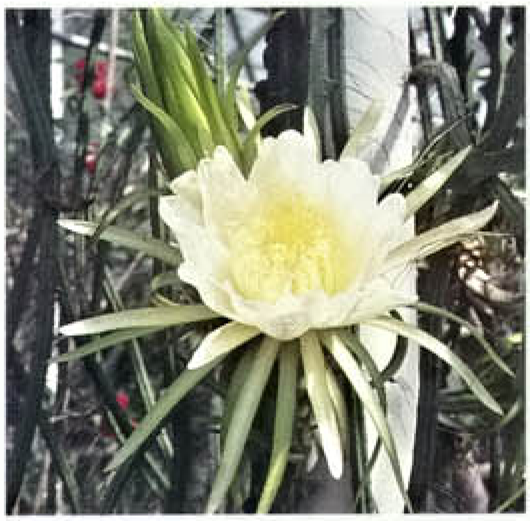
A rather flattened, globular plant of grayish green, 4–6in high, 8in–1ft broad, and densely woolly in the crown. It has 13–27 ribs with woolly areoles set well apart bearing six to seven reddish radial spines to ¾in long, and one thick central to 2½in or more long. Flowers are diurnal, in summer; bell-shaped and pale reddish pink with a satiny effect, they are 2–2½in long and across. Requires bright sun; enriched mineral, open compost; minimum temperature 50°F. *USA (Texas, New Mexico) Northern Mexico.*

HYLOCEREUS



HYLOCEREUS BROXENSIS Br. & R.

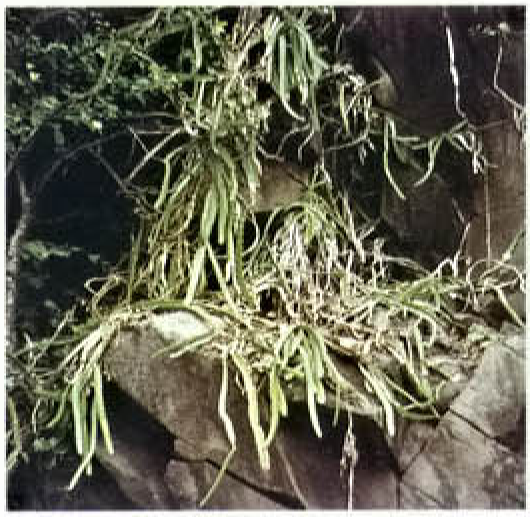
A sturdy climbing forest plant with long, somewhat jointed stems to over 10ft in length. The stems are three-angled, and a dull grayish green, 1–1½in thick, the ribs persistently undulating with horny and brownish margins. Areoles are set at intervals of ¾–1in along the margins, each with about 10 brownish spines ⅕–¼in in length. Flowers appear in summer, and are nocturnal; they are about 10in long with white inner petals arranged in series and yellowish outer segments. Needs semi-shade; normal cactus compost; minimum temperature 59°F. *Habitat unknown.*



HYLOCEREUS **CALCARATUS** (Weber) Br. & R.

Syn: *Cereus calcaratus* Weber

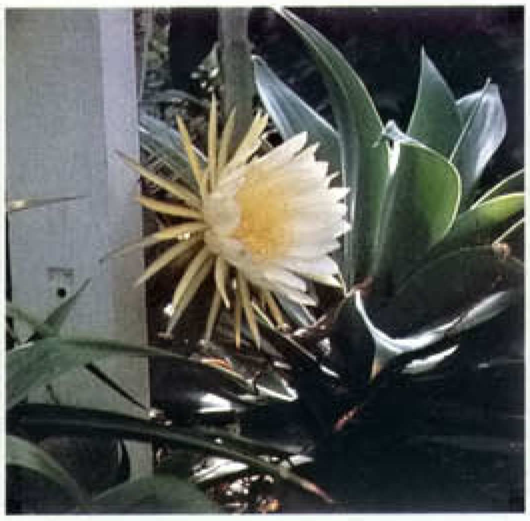
A semi-epiphytic, tall climbing species with elongated, three-angled, bright green stems 1½–2½in broad. The margins of the ribs are divided into prominent rounded lobes with small areoles set immediately above each. These are spineless or with one or more short white bristles. Flowers appear in mid-summer, and are nocturnal, about 7in long with white or creamy-white inner petals and greenish-white outer petals. Requires semi-shade; rich acid compost; minimum temperature 59°F. *Costa Rica.*



HYLOCEREUS **EXTENSUS** (Salm-Dyck) Br. & R.

Syn: *Cereus extensus* Salm-Dyck

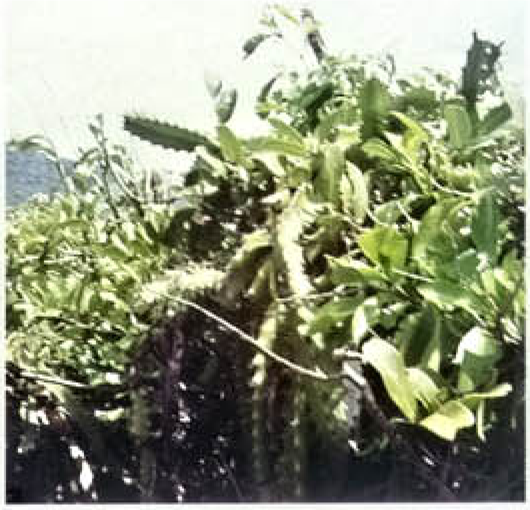
A triangular-stemmed clambering epiphyte. The stems are green with aerial roots, branching freely, the three-angled joints ⅔–1in wide. Areoles are small and woolly with two to four brown spines about ¹⁄₁₆in long. The diurnal, early summer flowers are fragrant, about 6in long with a green tube 3¼in long. Inner petals are pinkish white, the outer ones greenish yellow edged with red. Requires partial shade; acid compost; minimum temperature 64°F. *Windward Islands and Trinidad.*



HYLOCEREUS **GUATEMALENSIS** (Eichl.) Br. & R.

Syn: *Cereus trigonus guatemalensis* Eichl.; *Cereus guatemalensis* Berger

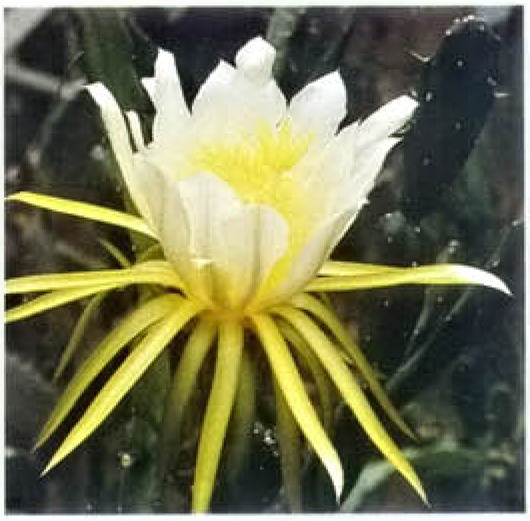
A forest species, the stems are three-angled, bluish or grayish green, to 13ft long, ¾–3in broad. Ribs are horny-edged with areoles about ¾in apart bearing two to four conical spines ⅛in long. Flowers are nocturnal in summer; highly perfumed, about 1ft long, 8in or more across. The inner segments are white, the outer rose pink. Requires filtered light; acid compost; minimum temperature 59°F. *Guatemala, San Salvador.*



HYLOCEREUS **NAPOLEONIS** (Graham) Br. & R.

Syn: *Cereus napoleonis* Graham

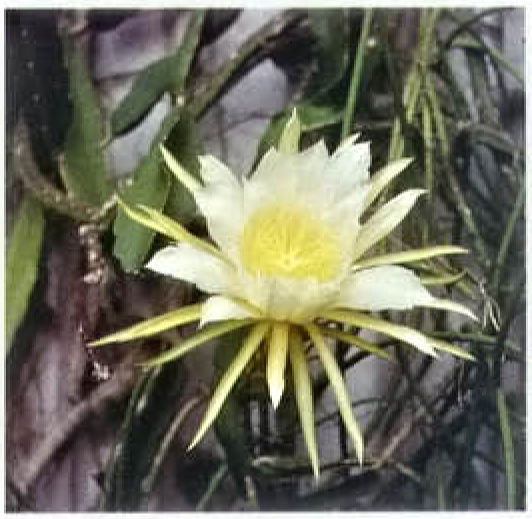
A clambering, climbing species, invariably epiphytic, even on other cacti! The green, three-angled stems have margins somewhat rounded with areoles bearing small clusters of brown spines up to ⅓in long. It is diurnal, flowering in mid-summer, and is fragrant. The flowers are 8in long with a tube 3¼in long, green with red scales. Inner segments are pure white, the outer ones slender and yellow. Needs a bright position; acid compost; minimum temperature 64°F. *Windward Islands (St. Vincent).*



HYLOCEREUS **OCAMPONIS** (Salm-Dyck) Br. & R.

Syn: *Cereus ocamponis* Salm-Dyck

A forest climbing plant with stems up to about 10ft in length. These are glaucous green with slightly wavy margins, and usually three-angled, to 2½in in diameter. The areoles are brownish red with five to eight yellowish spines up to ⅔in long. Flowering in mid-summer, the blooms are nocturnal, 1ft long with wide inner segments of pure white and narrower outer segments of pale yellowish green. Requires partial shade; normal cactus compost; minimum temperature 59°F. *Mexico.*



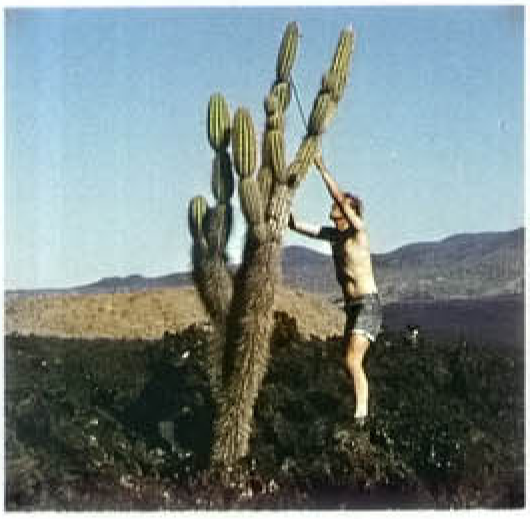
HYLOCEREUS **UNDATUS** (Haw.) Br. & R.

Syn: *Cereus undatus* Haw.; *Hylocereus tricostatus* Br. & R.

A widely cultivated species with stems divided into joints and freely branching. Climbs by means of aerial roots; the joints are triangular, 2–2½in in diameter. Areoles are set at intervals along the 'winged' margins with a few short, dark spines. Flowers, nocturnal in summer, are up to 1ft long; the inner segments are white, the outer ones yellowish green. Requires a bright position; normal cactus compost; minimum temperature 55°F. *Habitat unknown but probably West Indies.*

JASMINOCEREUS

J

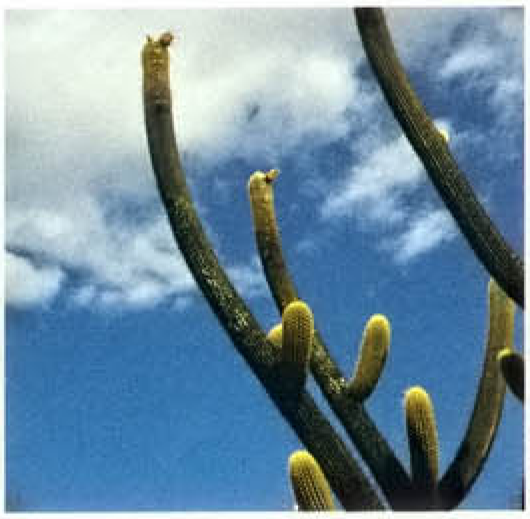


JASMINOCEREUS **THOUARSII** (Weber) Backeb.

Columnar to about 26ft high, branching from above the base. The branches are a dull grayish green, about 5½in in diameter and consisting of prominent 'joints' indicating past growth. There are 18–22 ribs, about ½in high, set with brownish areoles. These each bear about 10 spines, blackish, becoming gray, up to 2in. Flowers are nocturnal, in summer, 2–4in long with an elongated reddish-brown or yellowish tube, woolly and scaly externally. Needs sun; normal cactus compost; minimum temperature 55°F. *Galapagos Islands.*

LASIOCEREUS

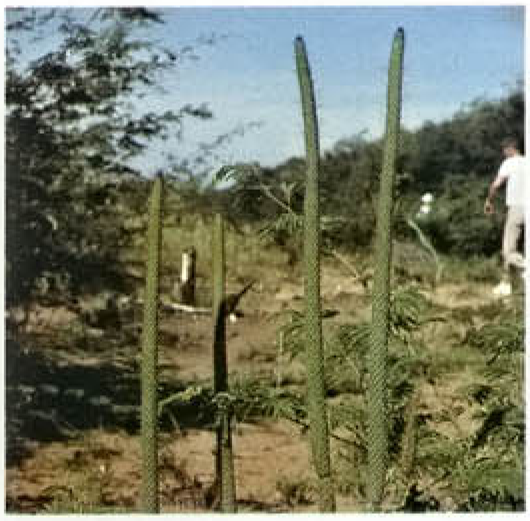
L



LASIOCEREUS **RUPICOLA** Ritter

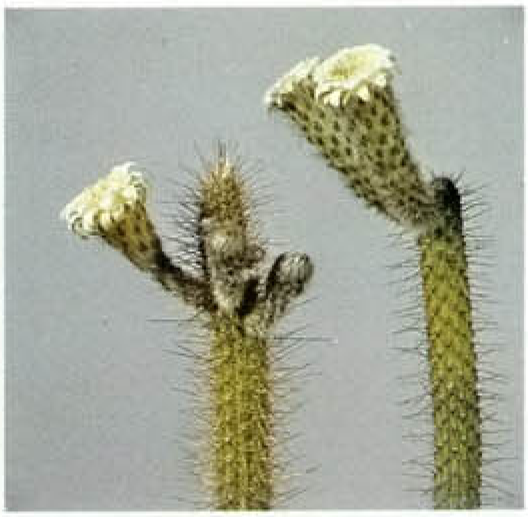
Tree-like, columnar plants, 10–13ft high in their habitat, and freely branching. The branches are dark green, 1½–3in thick with 18–21 ribs divided into large warts. Areoles are fairly close set, bearing 18–20 or more pale yellow radial spines up to ½in long and 10–12 similarly colored centrals up to 1in in length. Flowering at night in mid-summer, the flowers are white, 2in long, with black-tipped outer segments. Requires sun; normal cactus compost; minimum temperature 55°F. *Peru (Cajamarca).*

LEOCEREUS



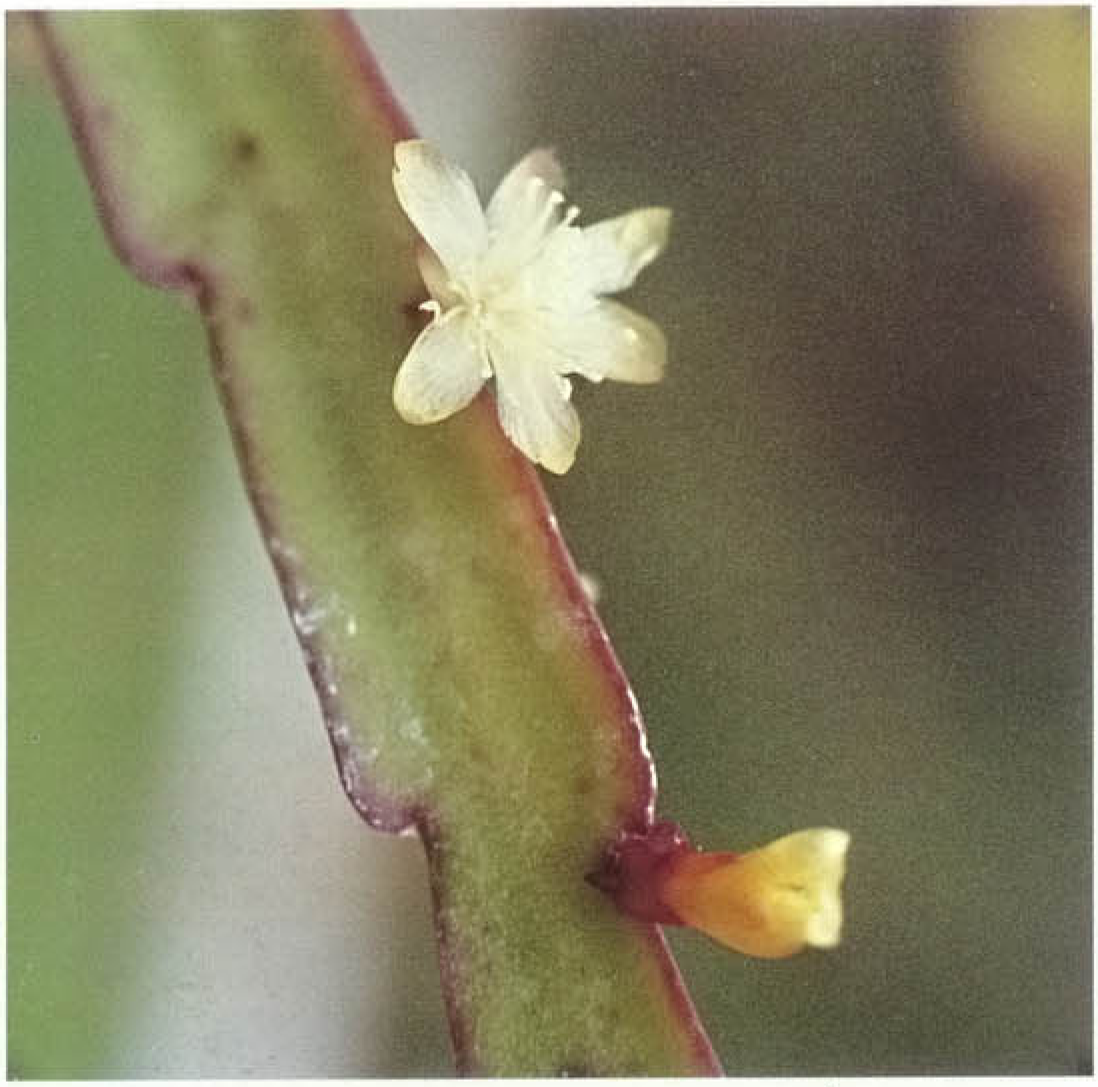
LEOCEREUS **BAHIENSIS** Br. & R.

Tall, erect columnar plants, rarely branching, up to 6½ft high, ½–⅔in in diameter. Dark green, they have 12–14 low ribs and close-set areoles which are round and white. There are numerous yellow spines, mainly spreading and very short except for the few centrals which are up to 1in long. Flowering in summer, the blooms are nocturnal, arising from the side of the stems. They are about 1½in long, with white inner petals, and greenish outer petals. Requires sun; normal cactus compost; minimum temperature 55°F. *Brazil (Bahia).*



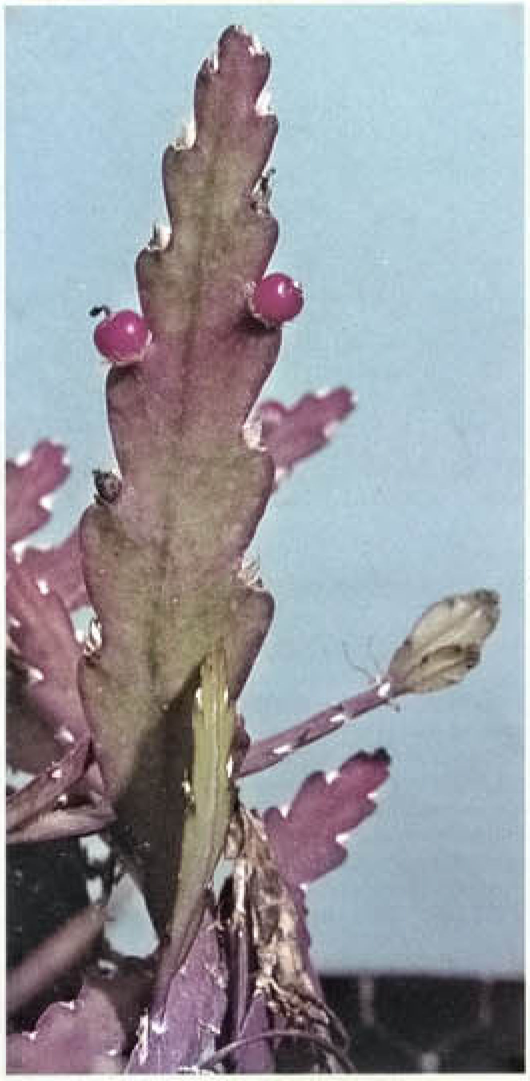
LEOCEREUS **ESTEVESII** Braun

Very closely related to *L. bahiensis*, coming from the region of Piaui, but a taller plant reaching to over 6½ft. It has about 12 ribs, with longer yellowish, bristly spines. The nocturnal summer flowers are more or less terminal; tubular in shape, they are greenish externally, with white inner petals. The center plant shows *L. bahiensis* var. *exiguospinus* Braun & Esteves. Needs full sun; normal cactus compost; minimum temperature 55°F. *Brazil (Bahia).*



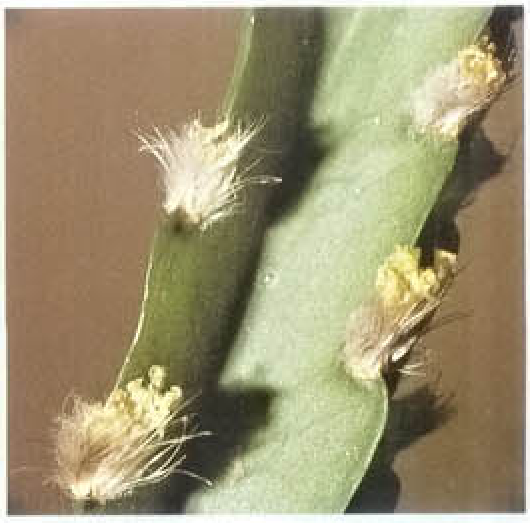
LEPISMIUM **CRUCIFORME** (Vellozo) Miquel

A most variable species, a number of varieties having botanical titles. The stems are green with reddish margins and are mainly three-angled, up to ¾in wide, and 1–2ft in length. They have prominently notched edges, each notch set with a white areole. Flowers are solitary, ½–⅔in long, and whitish; they are diurnal, appearing in spring. Requires shade; normal cactus compost; minimum temperature 55°F. *Brazil, Argentina, Paraguay.*



LEPISMIUM **CRUCIFORME var. ANCEPS** (Weber) Backeb.
Syn: *Rhipsalis anceps* Weber

A much-branching plant with mainly flat, lanceolate stems. These are dark purplish green, the margins notched with tufts of whitish wool in the areoles. Flowers, which are diurnal, are purplish white, appearing in late spring, and there are carmine-red fruits. Requirements are the same as for the species. *Brazil (Sao Paulo).*

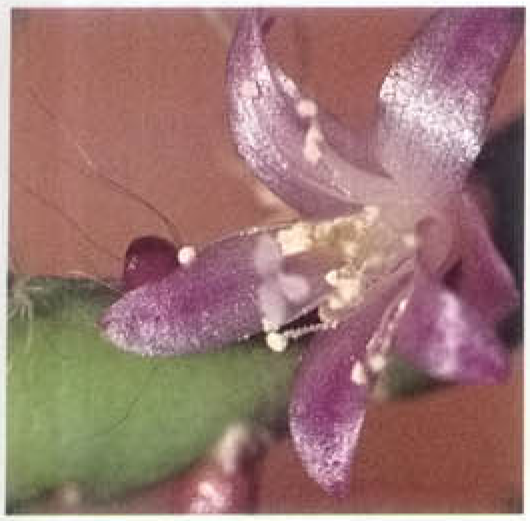


LEPISMIUM **CRUCIFORME var. CAVERNOSUM** (Lindbg.) Backeb.
Syn: *Lepismium cavernosum* Lingbg.

A sparsely branched species; the joints are acutely three-angled or flat, 6–10in long and up to 1in wide, and deeply notched. The areoles have prominent tufts of whitish wool and pale-grayish bristles. Flowers are white, with greenish outer petals, about ½in long. Requirements are the same as for the species. *Brazil (Rio de Janeiro, Minas Gerais).*

LEPISMIUM **CRUCIFORME var. KNIGHTII** (Pfeiff.) Boom

Similar to the species in all respects, except for the flowers which are glistening white with well-recurved petals. Requirements as for the species. *Brazil.*



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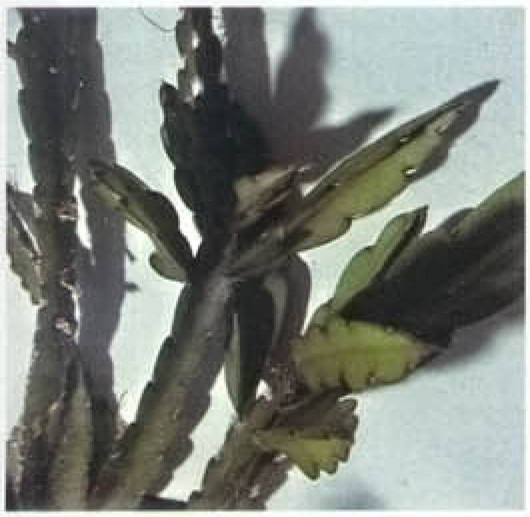

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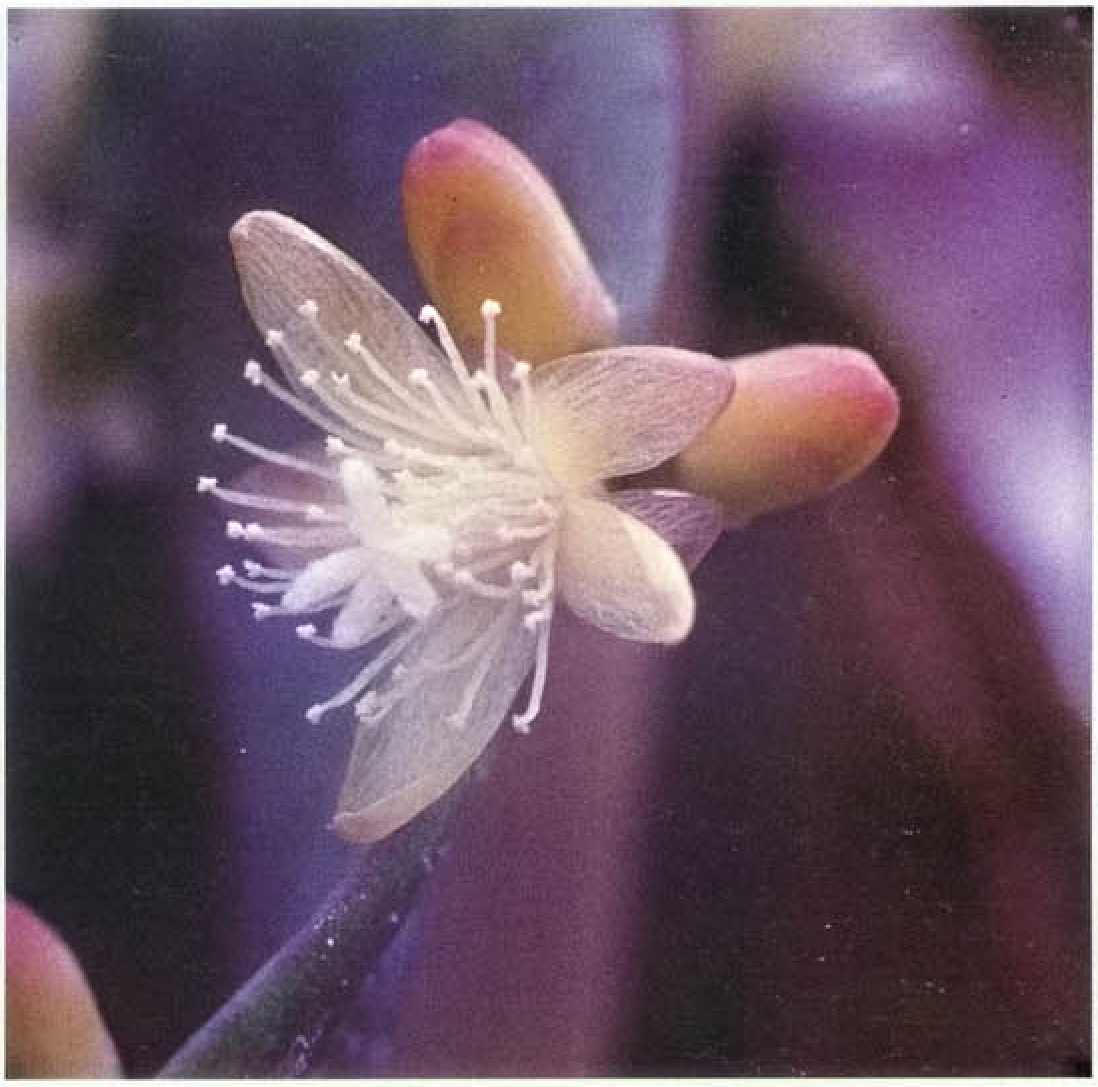
LEPISMIUM **CRUCIFORME var. MYOSURUS** (Salm-Dyck) Backeb.
Syn: *Lepismium myosurus* Pfeiff.

The three- to four-angled stems are 4–10in long, ⅕–½in wide, narrowing to pointed tips, and grayish green in color. Flowers are pinkish lilac, and about 1in long. Requirements as for the species. *Brazil (Rio de Janeiro, Santa Catharina).*



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LEPISMIUM **DISSIMILE** Lindbg.
Syn: *Rhipsalis dissimilis* K. Sch.

A somewhat bushy species with more or less erect cylindrical, slightly angular stems. These are about ⅕–⅓in thick, 6in or a little more long, and pale to dark green, branching in whorls. The very small areoles are arranged spirally, and are without wool or bristles on the upper joints. Flowers are reddish in bud, opening white and pink, and are ¼–½in long. They bloom by day in spring. Requires semi-shade; normal cactus compost; minimum temperature 50°F. *Brazil (Sao Paulo).*

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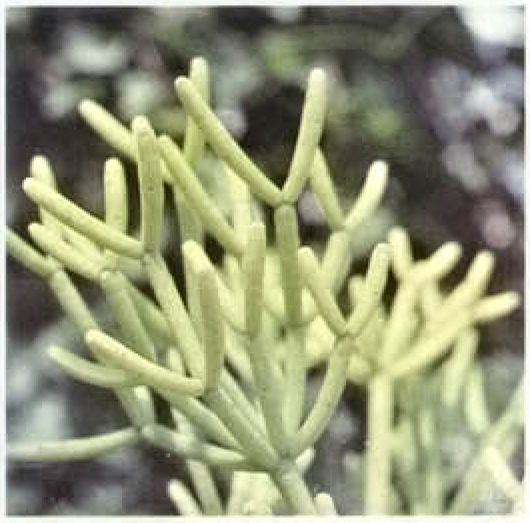
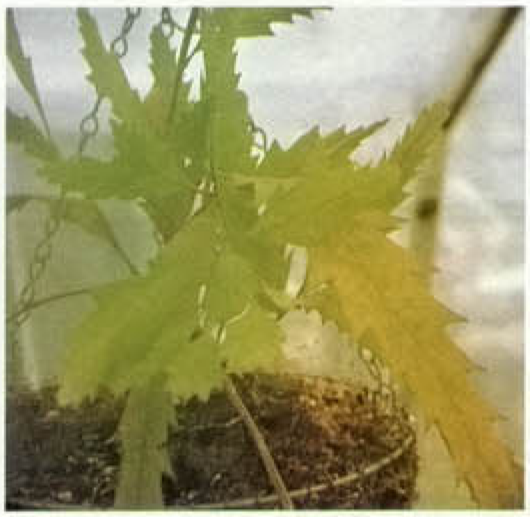
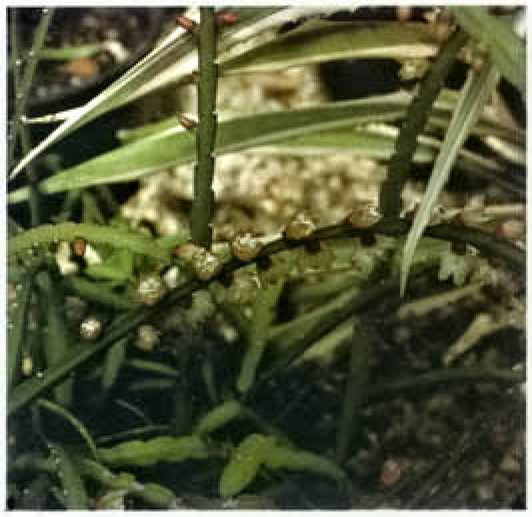




LEPISMIUM **HOULLETIANUM** (Lem.) Barthlott
Syn: *Rhipsalis houlletiana* Lem.

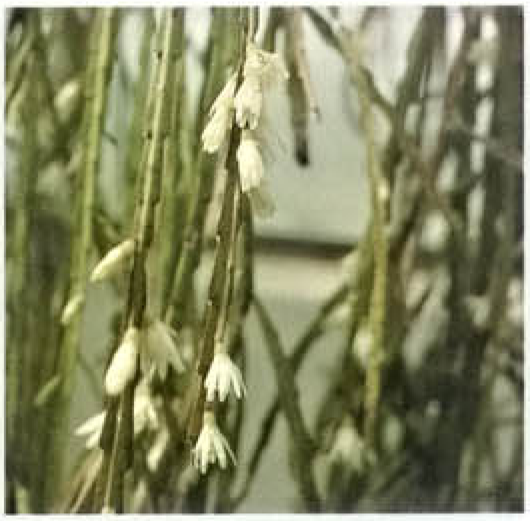
A much-branched species, epiphytic in nature, but responding well to pot culture. The stems are either cylindrical and erect, about ⅛in thick, or leaf-like, flat and lance-shaped, 1ft–1ft 3in in length and 1–2in broad with prominent toothed edges, pale to grayish green. Flowers from marginal areoles in late spring, diurnal; white or pale yellowish, up to ¾in long and bell-shaped, producing reddish fruits. Requires filtered light; normal cactus compost; minimum temperature 50°F. *Brazil (Minas Gerais).*



LEPISMIUM **LORENTZIANUM** (Griseb.) Barthlott

Syn: *Rhipsalis lorentziana* Griseb.

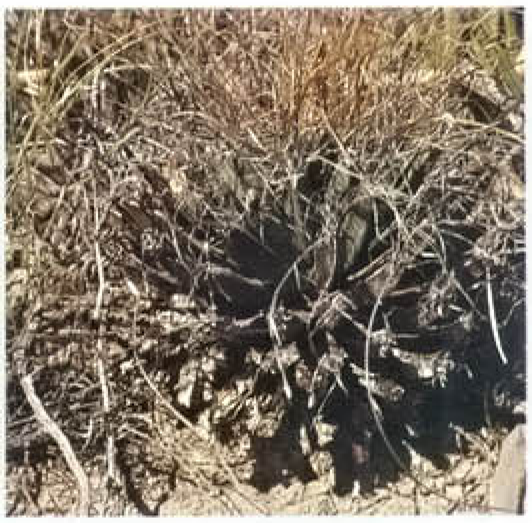
A freely branching epiphyte with flattened or three-angled fresh-green stems 4in–1ft long, ¾–1½in broad, with prominent midribs. Areoles are whitish, set in the notched margins. The yellowish-white flowers are small, appearing in daytime in late spring, and there are purple-black fruits. Needs semi-shade; normal cactus compost; minimum temperature 50°F. *Argentina (Salta).*



LEPISMIUM **WARMINGIANUM** (K. Sch.) Barthlott

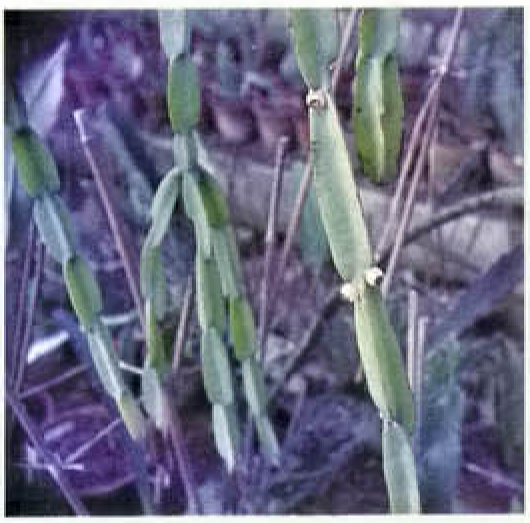
Syn: *Rhipsalis warmingiana* K. Sch.

A branching epiphyte with dark-green, reddish-edged stems 4in–1ft 3in long and about ¾in broad. These are flat or three-angled with crenate margins. The areoles are slightly woolly, bearing white flowers about ½in long, ¾in wide when fully open. These appear in late spring to early summer, and are diurnal. The fruits are blackish purple. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Brazil (Minas Gerais).*



LEUCHTENBERGIA **PRINCIPIS** Hook.

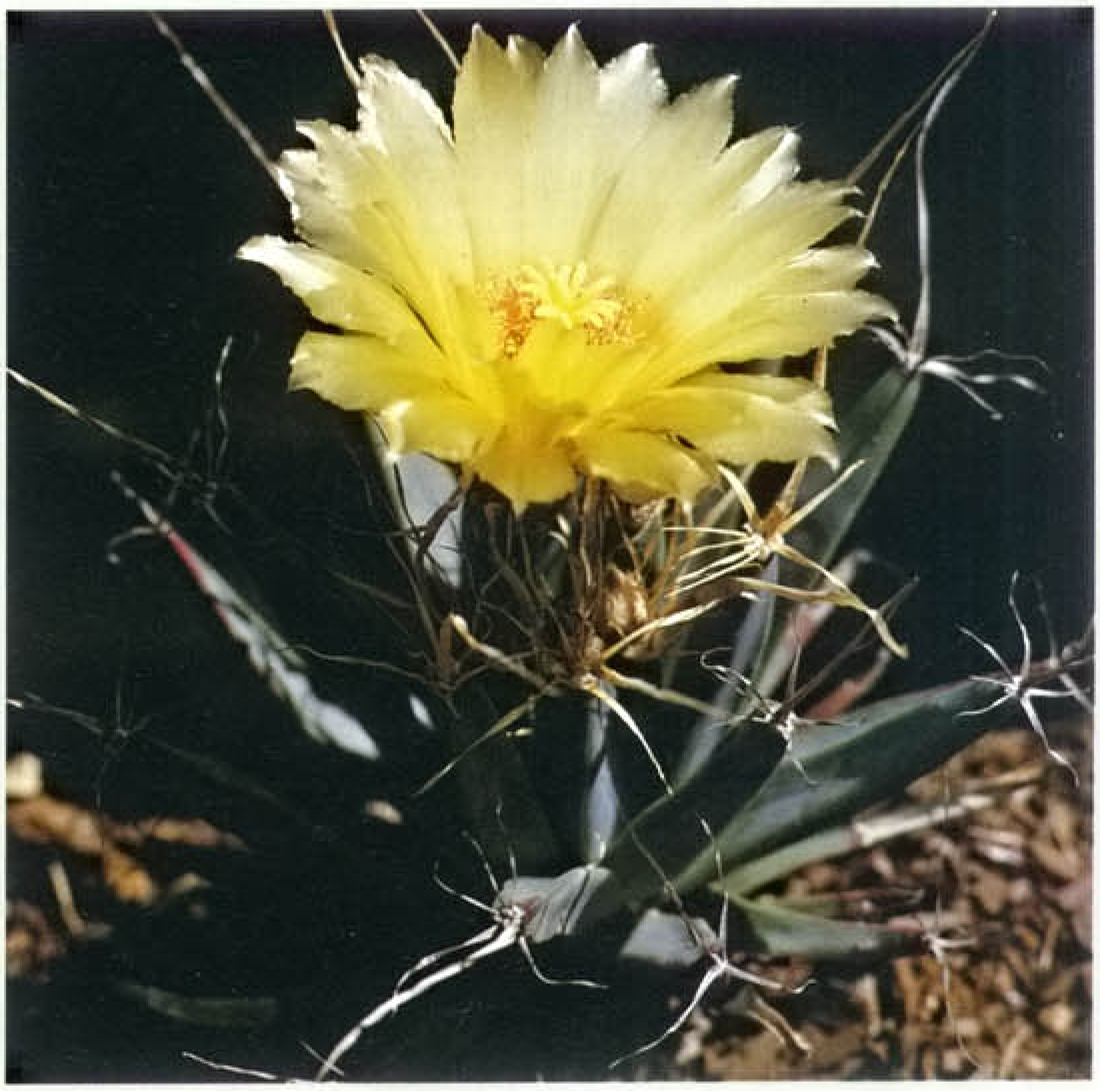
Plants reach up to 2ft 4in tall, becoming woody with age. There is a thick, fleshy stem from which arise large, bluish-green tubercles, 4–4¾in long and triangular. At the tips of the tubercles are large grayish areoles bearing eight to fourteen radial and one or two central spines, twisted and papery and about 4in long. Flowers are diurnal in mid-summer from the tips of young tubercles; glossy yellow and up to 3¼in long, 2–2½in across. Needs full sun; enriched calcareous compost; minimum temperature 50°F. *Mexico (Northern and Central).*

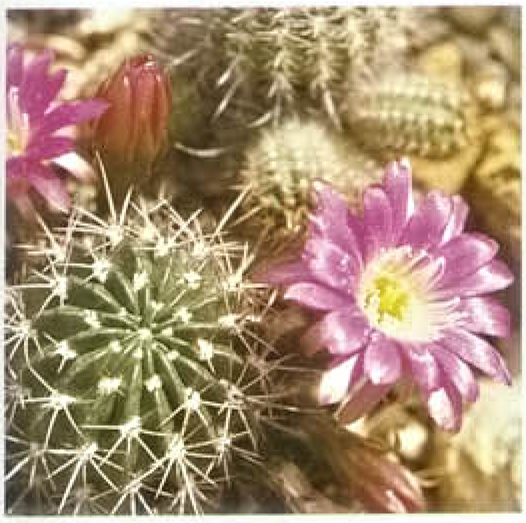


LEPISMIUM **PARADOXUM** (Salm-Dyck) Backeb.

Syn: *Rhipsalis paradoxa* Salm-Dyck

An epiphyte with long, jointed stems with acute angles, twisted into shorter joints at intervals of ¾–2½in with a whitish areole at the top of each angle. Flowers, which are diurnal, occur in late spring; they are white, and about ¾in long. The fruits are white, turning reddish. Requires partial shade; normal cactus compost; minimum temperature 50°F. *Brazil (Sao Paulo).*





LOBIVIA **BACKEBERGII** (Werd.) Backeb. Syn: *Echinopsis backebergii* Werd.

The pale green plant is solitary or offsetting, globular or oval, and 1½–2in in diameter, with about 15 spirally notched ribs. Areoles are slightly woolly and arranged about ½in apart with three to seven brownish, spreading radial spines, often curved or hooked, and ⅕–2in long; there are no centrals. Flowers are diurnal in summer, borne laterally; they are carmine red, and around 2in long. Requires a very bright position; normal cactus compost; minimum temperature 45°F. *Bolivia (La Paz, 3500m alt.)*

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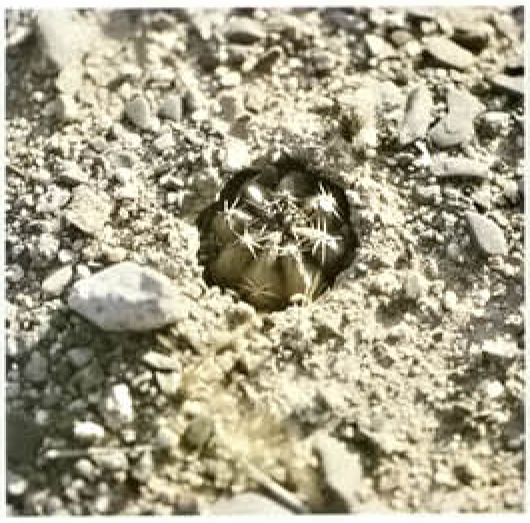

LOBIVIA **CHRYSANTHA** Werd.

A high-altitude, grayish-green, globular plant with about 13 ribs: in its habitat it is often sunken into the ground. The woolly areoles are grayish, bearing five to eight radial spines; these are initially reddish, later turning grayish, and up to about ¾in long. Flowers are bright yellow with a reddish-purple throat, and are fragrant, appearing by day in summer. Requires slightly calcareous compost; sunny position; minimum temperature 45°F. *Argentina, Bolivia.*

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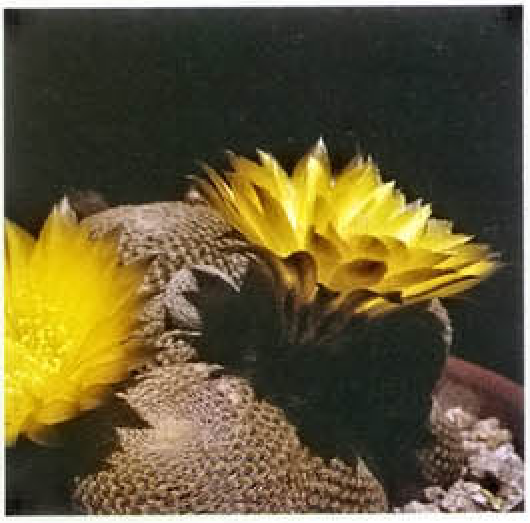

LOBIVIA **FAMATIMENSIS** (Speg.) Br. & R. Syn: *Echinocactus famatimensis* Speg.

A most variable species with flowers ranging from white to deep red. Several varietal titles are recorded: that depicted is var. *nigricans* which has somewhat oval stems, mostly solitary. It is 1½–2in in diameter with 18–24 low ribs and closely set white areoles. There are eight to fourteen whitish spines about ⅕in long. The flowers are yellow to scarlet, about 2in long and somewhat trumpet-shaped. They are diurnal, in summer. Requires a sunny location; normal cactus compost; minimum temperature 45°F. *Argentina (La Rioja, San Juan).*

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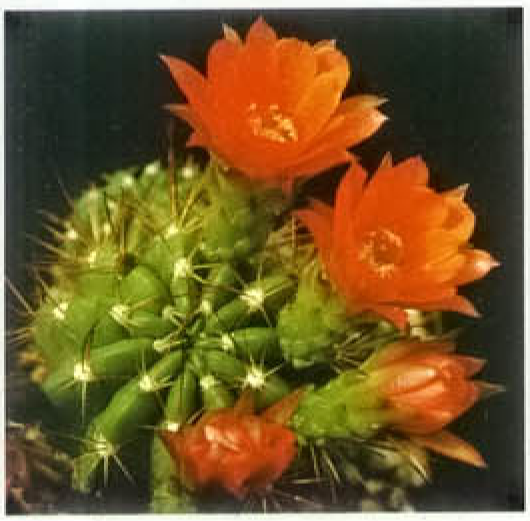

LOBIVIA **CAESPITOSA** Br. & R. **var. MINIATIFLORA** Ritter

A more or less globular plant 1–2½in high, ¾–1½in thick with 10–13 bumpy ribs. The spines are very fine and slender, consisting of three to eight or more radials, and four to eight centrals from ½–2in long. Day flowering in summer, the blooms are 2–2½in long, with yellowish red inner petals, red externally. Needs bright light; normal cactus compost; minimum temperature 50°F. *Bolivia (La Paz).*

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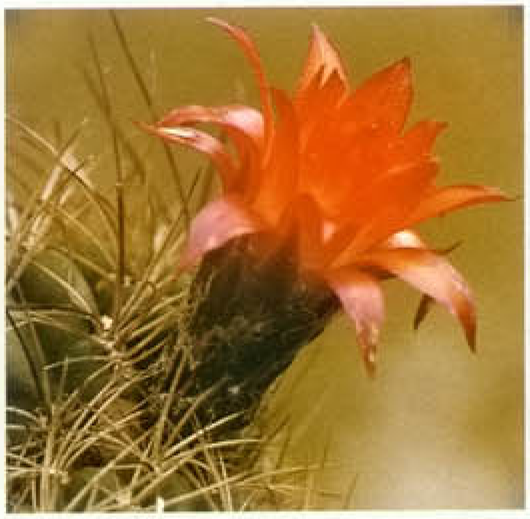

LOBIVIA **CORBULA** (Herrera) Br. & R. Syn: *Mammillaria corbula* Herrera

A globular plant, freely offsetting to form clusters of pale green stems, each with 12–18 acute ribs arrayed with hatchet-like notches bearing white woolly areoles. The spines are brownish yellow, seven to twelve of them slightly curved radials to 2in in length and rarely one curved central. The flowers open about midday in summer; they are about 1in long borne on a long tube, with deep orange inner petals and carmine-red outer ones. Requires full sun; normal cactus compost; minimum temperature 45°F. *Peru (Cuzco).*

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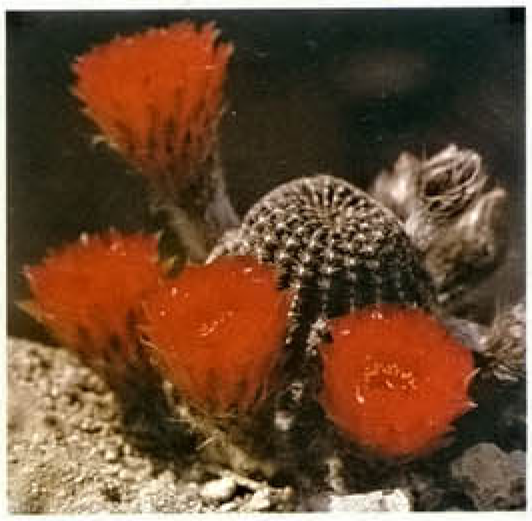

LOBIVIA **FAMATIMENSIS var. HAEMATANTHA** (Backeb. ex Wessn.) Backeb.

A brownish-green, short, oval-shaped variety with 15 or more ribs, short spines, and blood-red flowers. Requirements are the same as for the species. *Argentina.*

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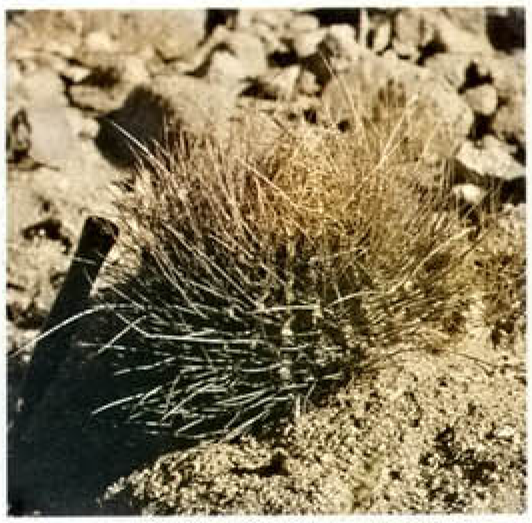
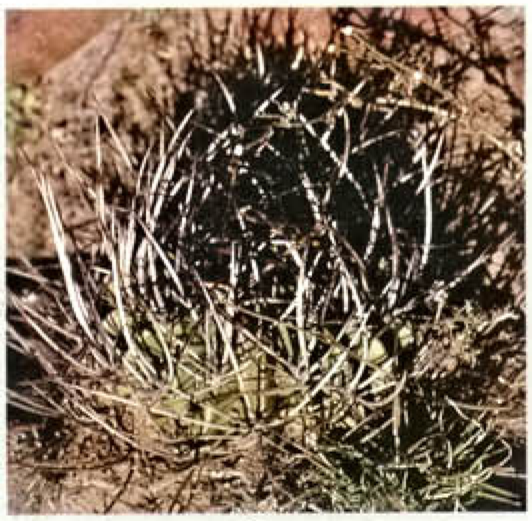
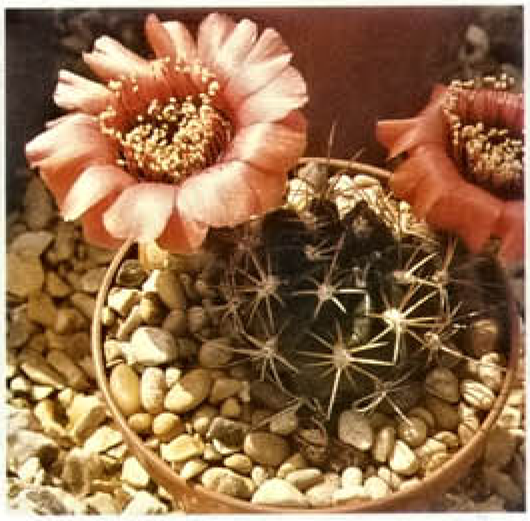
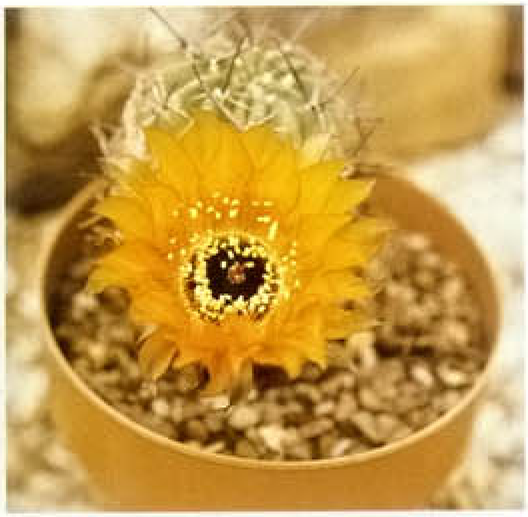




LOBIVIA FEROX Br. & R.
Syn: *Psedolobivia ferox* (Br. & R.) Backeb.; *Lobivia longispina* Br. & R.

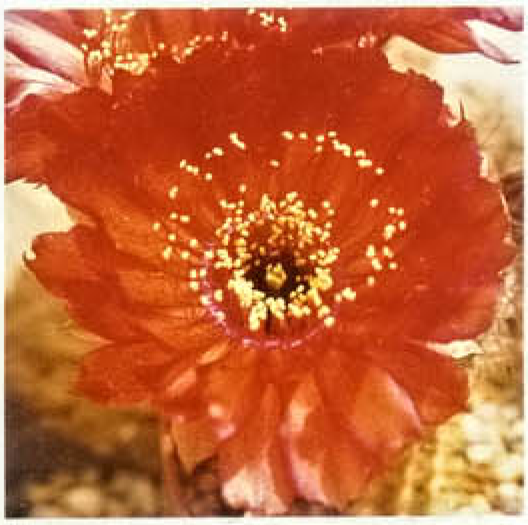
Globular plants to 8in high and in diameter with 15–25 or more ribs. The spines are at first brown, later grayish, of which eight to twelve are radials and about three are centrals, up to about 4in long. Flowers are white, and bloom by day in summer. Requires a sunny position; an enriched mineral-based compost; minimum temperature 45°F. *Bolivia.*

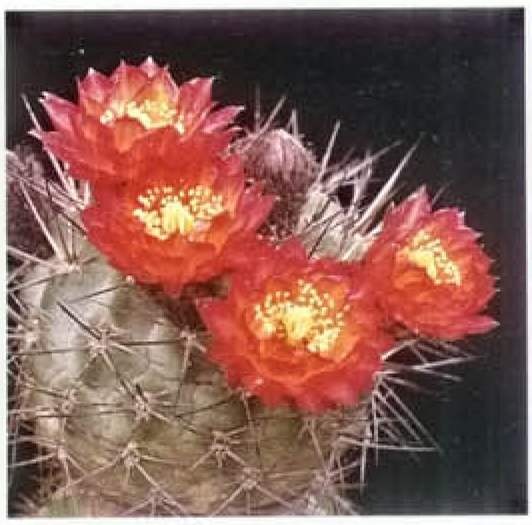




LOBIVIA JAJOIANA Backeb.
Syn: *Lobivia chrysantha* (Werd.) Backeb. ssp. *jajoiana* Rausch ex Rowley

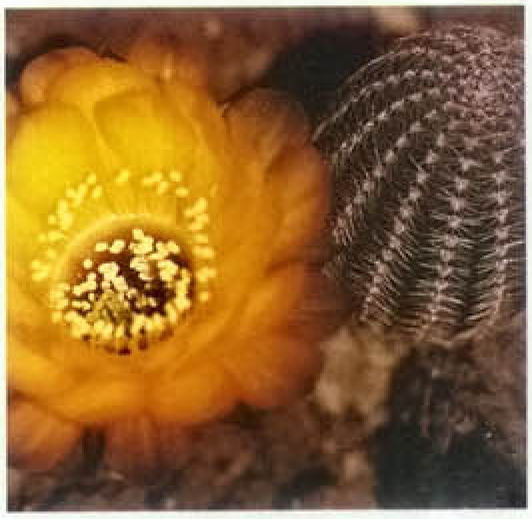
These plants are solitary, rarely offsetting. The stem is oval or cylindrical, 2–2½in thick, deep or grayish green with 10–18 tuberculate ribs. There are eight to ten reddish-white radial spines about ½in long and one pale brown central to 1in in length. Flowers are diurnal in summer, varying considerably in size and color from yellow through to deep red. They are 2–2½in in diameter and are often scented. Requires partial shade; normal cactus compost; minimum temperature 50°F. *Argentina.*





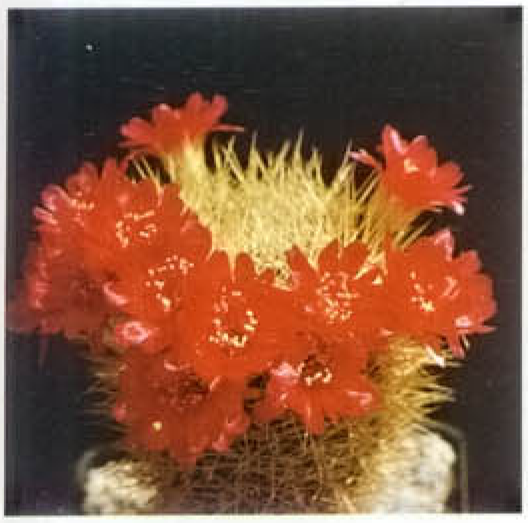
LOBIVIA JAJOIANA Backeb. **var. GLAUCA** Rausch
Syn: *Lobivia glauca* Rausch

Probably only a color form of the species; the stem is very similar, and so is the spination. The almost completely deep rose-pink flowers perhaps justify a separate specific title as proposed by Rausch. Requirements are as for the species. *Bolivia.*



LOBIVIA MARSONERI (Werd.) Backeb.

The stems are grayish green, about 3¼in high and thick, freely offsetting. There are about 20 ribs which are straight with close-set areoles, and the spines are yellowish gray to brownish: eight to twelve radials up to 1in long and two to five centrals, usually hooked. The golden-yellow to red flowers are about 2in long, 2½in across, and are fragrant, appearing by day, in summer. Requires filtered light or partial shade; normal cactus compost; minimum temperature 50°F. *Northern Argentina.*



LOBIVIA **OLIGOTRICHA** Card.
Syn: *Lobivia cinnabarina* (Hook.) Br. & R. var. *oligotricha* (Card.) Rausch

Bright-green, globular plants around 3¼in high and in diameter. There are about 18 ribs with areoles set approximately ⅓in apart, bearing about 15 spines, some to ⅔in in length. The flowers are bright red, just over 1in long, 1in across; flowering in summer, they are diurnal. Requires sun; normal cactus compost; minimum temperature 50°F. *Bolivia (Cochabamba).*

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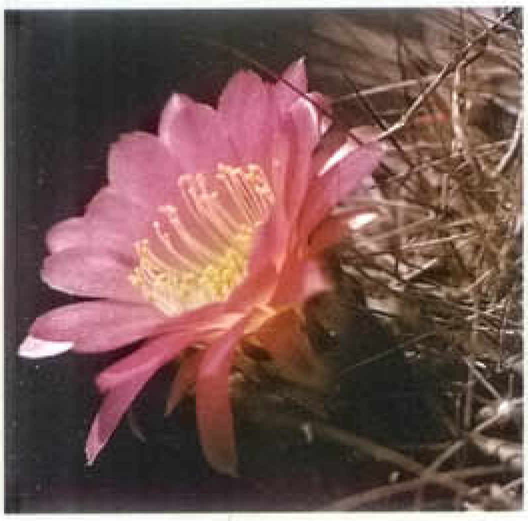

LOBIVIA **RAPHIDACANTHA** Backeb.

This species is currently considered synonymous with *Lobivia pentlandii* (Hook.) Br. & R. A more or less globular plant 2½–3¼in in diameter, dark green in color with about 16 spirally arranged ribs. Areoles bear five or more grayish radial spines of unequal length, ranging from ¼–⅔in, with usually one prominent central to 3in long. Flowers open in late afternoon in early summer; they are funnel-shaped, up to 2in long and across, and pinkish purple in color. Requires slight shade; normal cactus compost; minimum temperature 55°F. *Northern Bolivia, Peru (Puna).*

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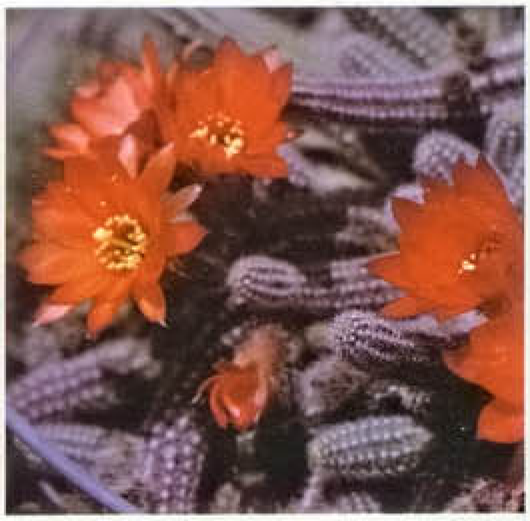

LOBIVIA **SILVESTRII** (Speg.) Rowley
Syn: *Chamaecereus silvestrii* (Speg.) Br. & R.

The popular Peanut Cactus. A somewhat dwarf species with pale green stems rarely more than 6in long, ⅔–1in thick, branching and offsetting freely. The seven to ten ribs bear 10–15 whitish, bristly spines, ⅛in long. Flowers appear in early summer, and are diurnal; they are bright scarlet, 1½–3in long. Requires slight shade; normal cactus compost; minimum temperature 45°F, even lower if kept completely dry and in a bright location in winter. *Argentina (Tucuman).*

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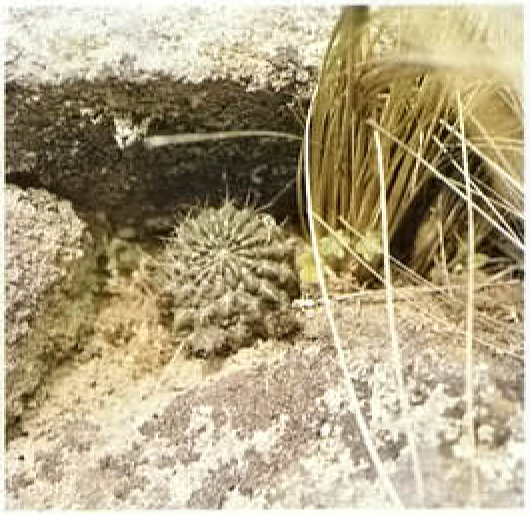

LOBIVIA **STILOWIANA** Backeb.

A high-altitude species. Plants are globular, dark green, about 2½in high, 2in diameter with about 23 ribs and prominent warts. There are five to seven grayish radial spines ⅕in to over ½in long, and one central about ⅔in in length. The flowers are cinnamon carmine, about 1½in long and across, and appear by day in summer. Needs a slightly shaded position; an enriched mineral compost; minimum temperature 45°F. *Argentina (Tucuman).*

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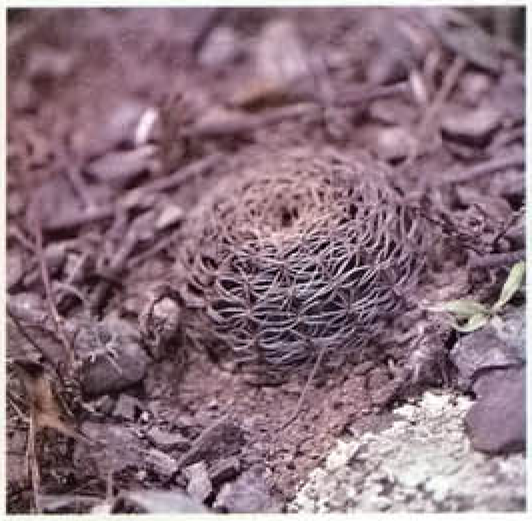

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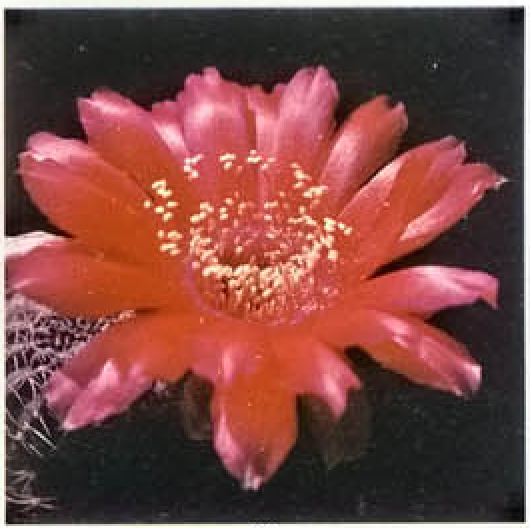

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LOBIVIA **SUBLIMIFLORA** Backeb.
Syn: *Lobivia rebutiodes* var. *sublimiflora* (Backeb.) Backeb.

A somewhat globose, dark-green to violet plant with 12–20 ribs. The whitish spines are appressed; there are about 10, including one central longer than the others. Flowers, about 2½in long and wide, vary in color from yellow, orange, and red to almost purple; they appear by day in summer. Requires a bright position; an enriched mineral-based compost; minimum temperature 45°F. *Argentina (Salta).*

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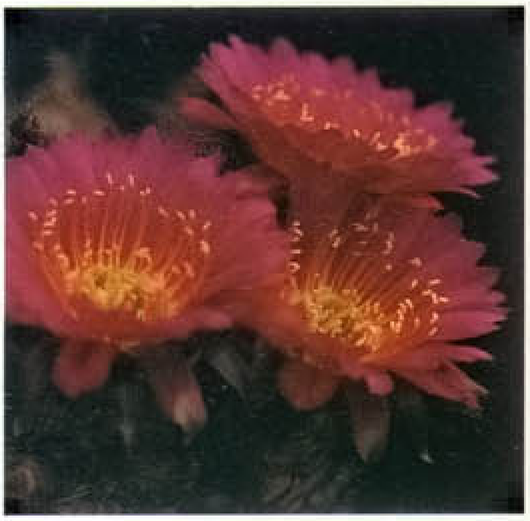
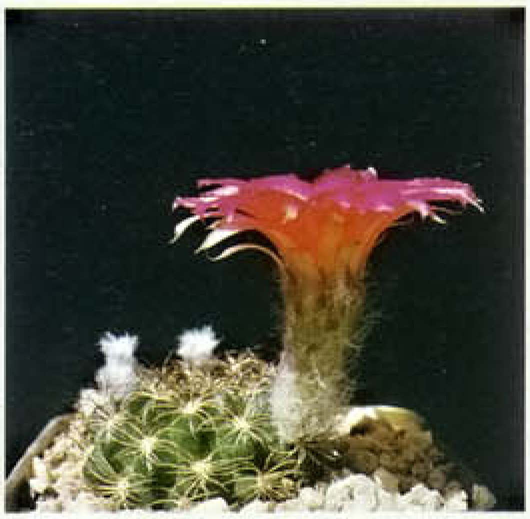


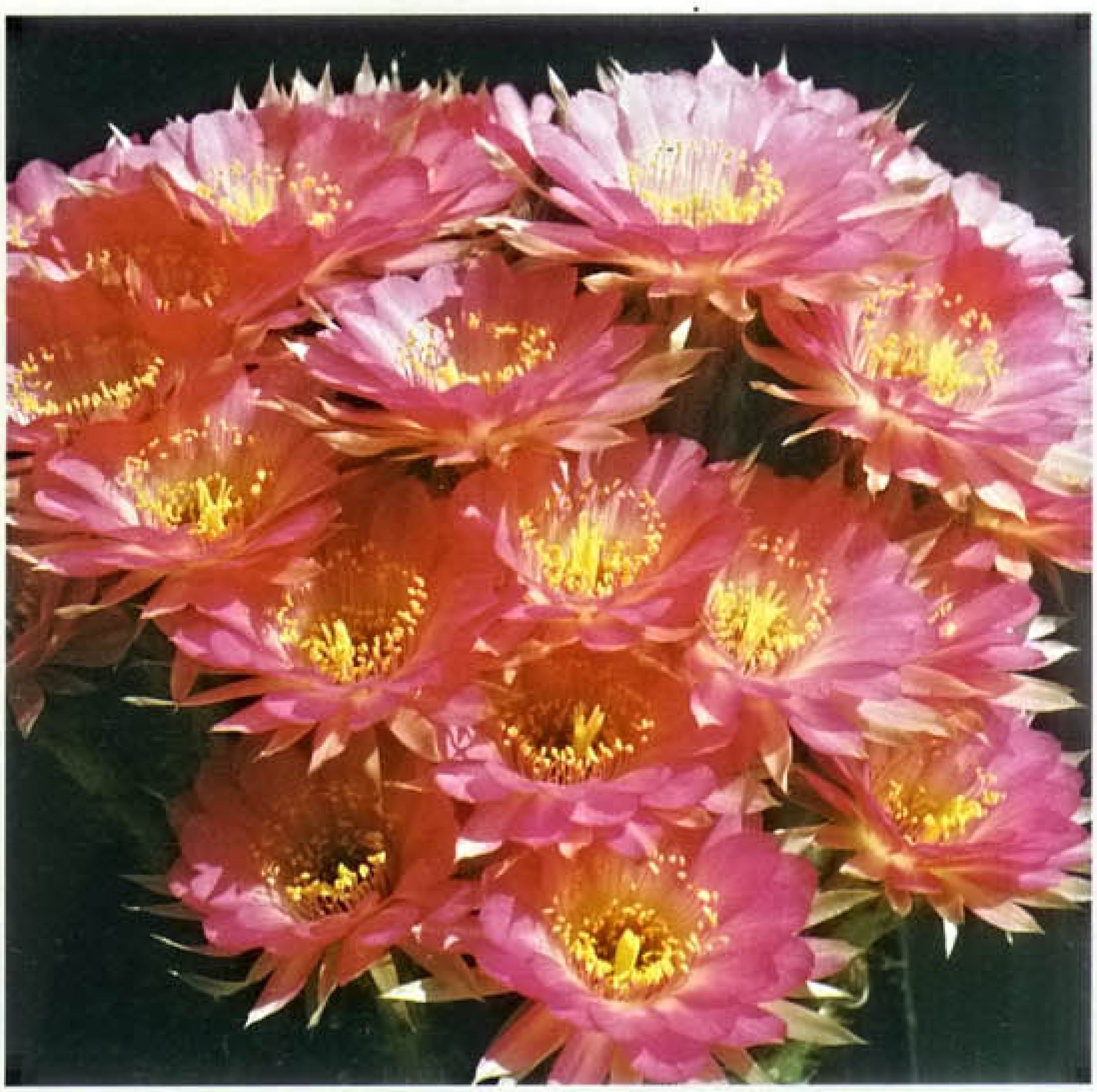
LOBIVIA **TARATENSIS** Card.

Plants may be solitary or grouped. Each stem is up to 3in high, 4¾in thick, and is green to grayish green with 15–30 ribs divided into hatchet-like tubercles to ½in high. The 10–14 spines are yellowish, becoming grayish, from ⅕–1in in length. Flowers are magenta, up to 1⅓in long, 1in across, and are diurnal, in early summer. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Bolivia (Tarata).*



LOBIVIA **TIEGELIANA** Wessn.

A bright-green globular plant about 2½in in diameter with about 18 ribs. Areoles have four to six paired brownish-yellow radial spines with reddish-brown tips about ½in in length and one to three brown-pointed centrals. Mid-summer flowering, it is diurnal. The flowers are reddish violet, 1in long, about 1½in across. Needs good light; normal cactus compost; minimum temperature 50°F. *Bolivia (Tarija).*



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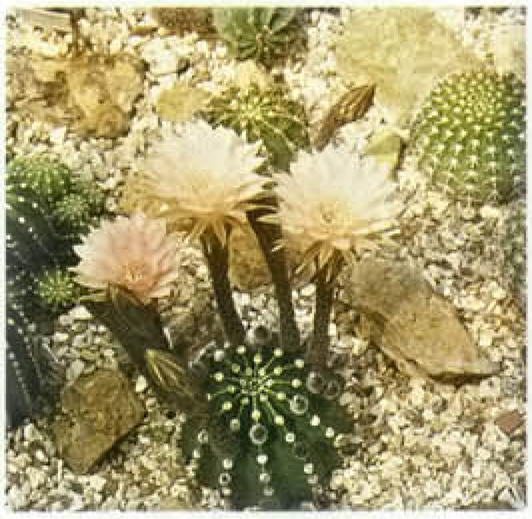
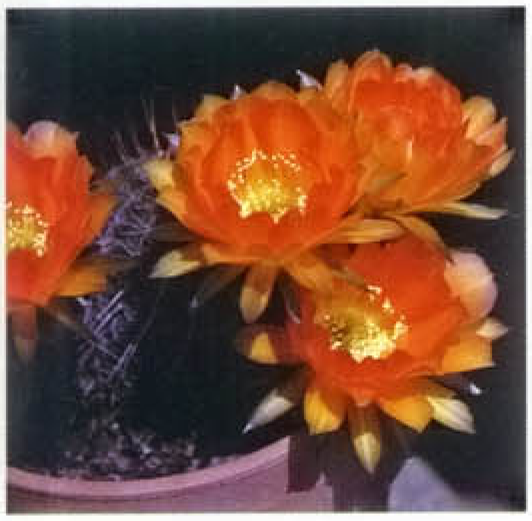
× LOBIVOPSIS **'Dainty Bess'** Johnson

A very attractive hybrid developed in the USA between a species of *Lobivia* and *Echinopsis*. It is diurnal, flowering in early summer. Needs a very bright position, essential in order to produce the abundance of flowers peculiar to this cultivar; normal cactus compost; minimum temperature 50°F.



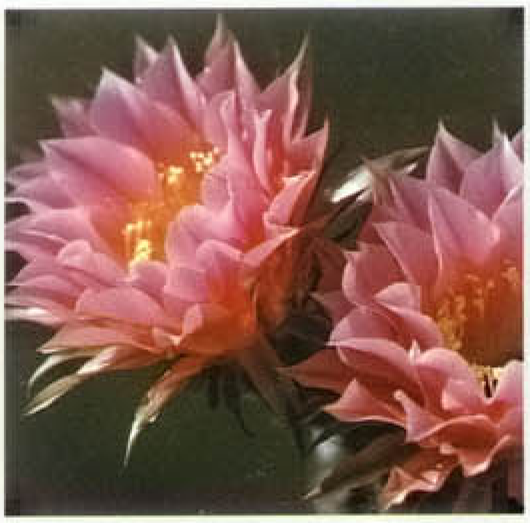
× LOBIVOPSIS **'Helena'** Innes

An attractive hybrid between *Lobivia cinnabarina* × *Echinopsis multiplex* developed in the UK about 1965. Flowering by day in early summer, the pale to salmon-pink flowers provide a display for several weeks, these appearing in succession. Requires fairly bright sun; normal cactus compost; minimum temperature 50°F.



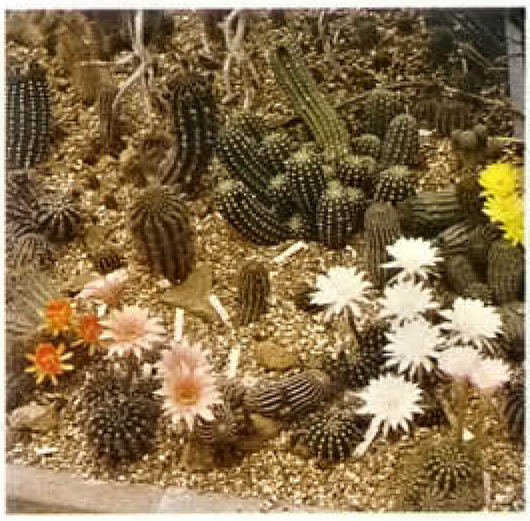
×LOBIVOPSIS **'Orange Glory'** Johnson

A Paramount Hybrid produced in the USA by Harry Johnson and originally featured in 1957. A clustering plant, it is diurnal and flowers in late spring and summer. The orange blooms are 2½–3in in diameter. Requires full sun; normal cactus compost; minimum temperature 50°F.



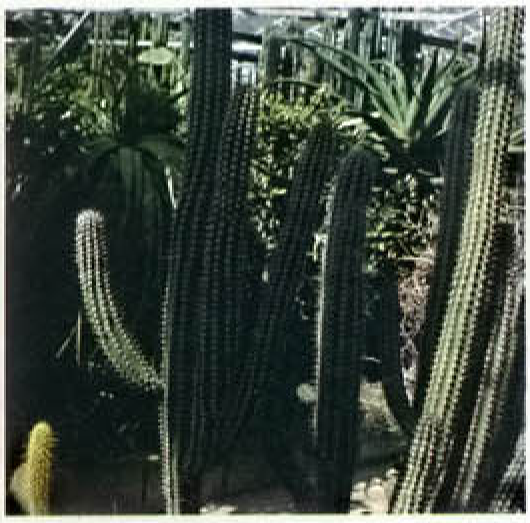
×LOBIVOPSIS **'Stars & Stripes'** Johnson

An outstanding Paramount Hybrid first featured in 1961. The many-petaled flowers of warm rose with a darker deep-rose center area to the inner segments have made this an outstanding plant. Flowering in early summer, it is diurnal. Requires full sun; normal cactus compost; minimum temperature 50°F.



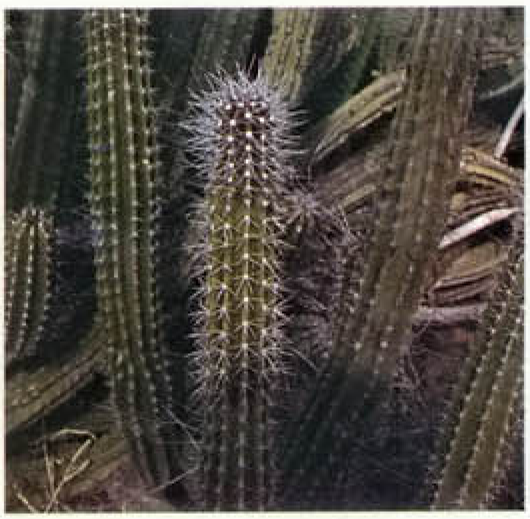
×LOBIVOPSIS **'Sussex Hybrids'** Innes & Hewitt

A group of hybrids produced in the UK, including 'Sussex Charm' (yellow), 'Sussex Dawn' (pink and red), 'Sussex Blend' (pale pink), and *Echinopsis oxygona* (Link) Zucc. (white), a parent of many hybrids. They are diurnal, flowering in early summer. Require slight shade; normal cactus compost; minimum temperature 50°F.



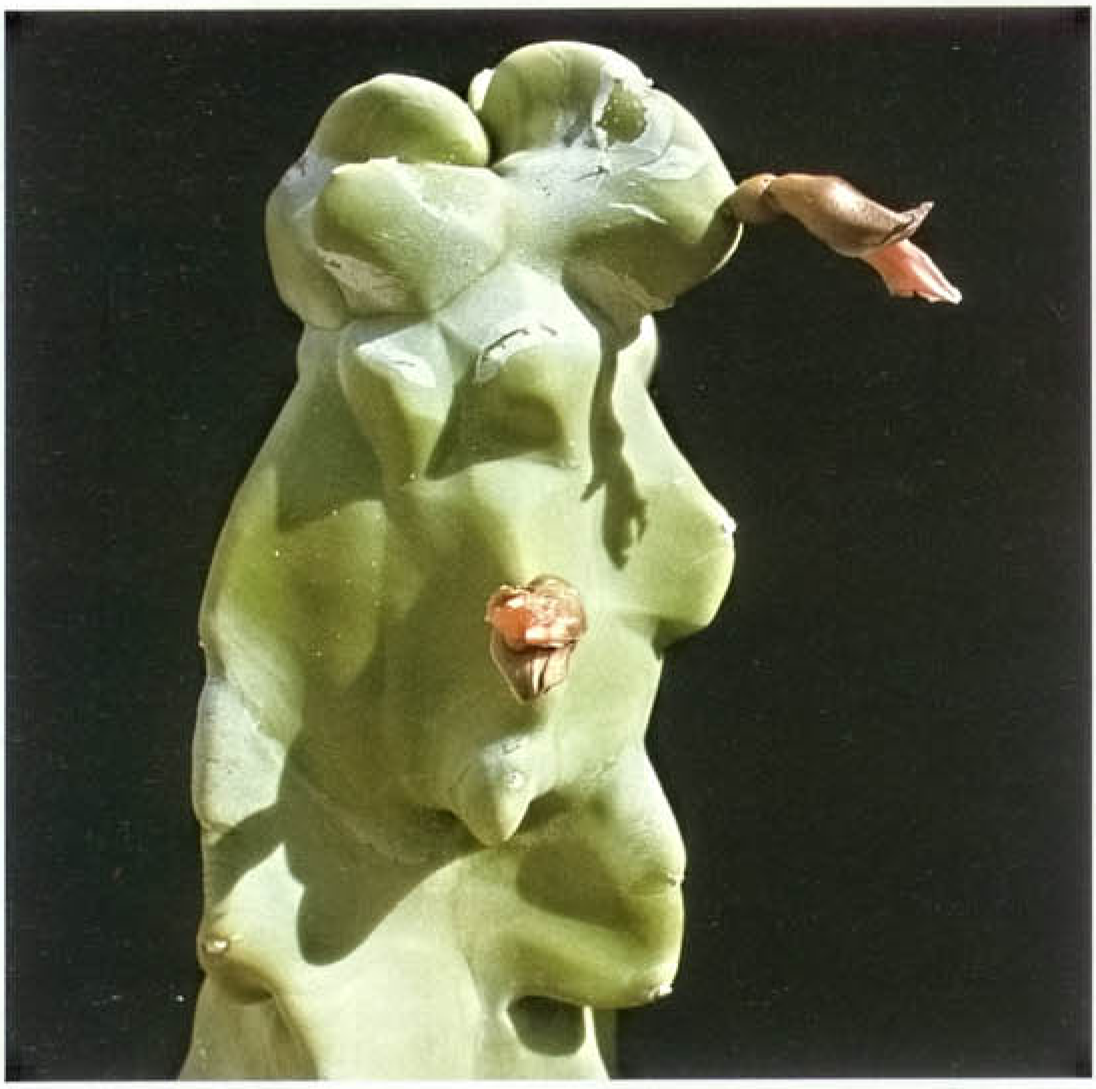
LOPHOCEREUS **GATESII** M. E. Jon.

A grayish-green, columnar, branching species, in its habitat up to 10ft tall, and 3½in thick. It has 10–15 ribs with close-set areoles bearing eight to ten grayish radial spines and two centrals up to ⅔in long. Flowering by night in mid-summer, the flowers are around 1in long and wide, and are pinkish red. Requires bright light; slightly calcareous cactus compost; minimum temperature 50°F. *Mexico (Baja).*



LOPHOCEREUS **SCHOTTII** (Engelm.) Br. & R.
Syn: *Pachycereus schottii* (Engelm.) D. R. Hunt

Columnar 3–15ft long, branching from base, erect or straggling. The stems are dull green, about 2½in thick, with four to twelve ribs and large, woolly areoles about ½in apart. There are four to seven spines, blackish, ½in long. Flowers are nocturnal, in summer from a terminal pseudocephalium. They are red, greenish externally and 1–1½in long. Needs slight shade; calcareous cactus compost; minimum temperature 50°F. *Mexico (Sonora, Baja).*



LOPHOCEREUS **SCHOTTII** (Engelm.) Br. & R. **var. MONSTROSUS**

So called "deformities" in growth often produce most unusual features. This variety has very irregular ribs and spineless areoles and has earned the title of "Totem Pole." It flourishes on its own roots, and subsequent new branches rarely differ from the "mother" plant. Requirements are the same as for the species.

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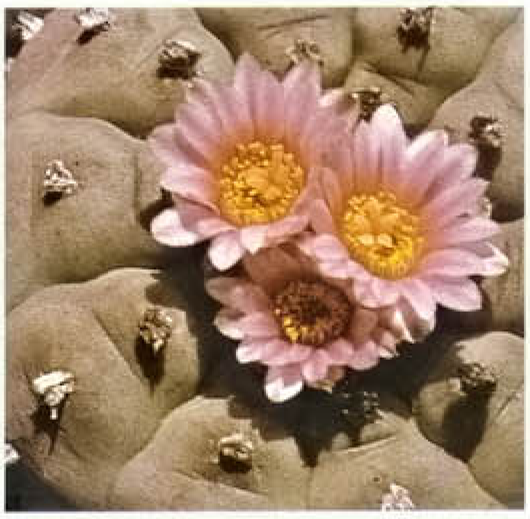

LOPHOPHORA **WILLIAMSII** (Lem. ex Salm-Dyck) Coult.
Syn: *Echinocactus williamsii* Lem.; *Lophophora lewinii* Thompson

Bluish-green, globular with a flattened surface, 2–3¼in wide. There are seven to ten low ribs, indistinctly tubercled with white-felted spineless areoles. Flowers are diurnal, lasting for two or three days in summer, pink or white, ½–1in across. The plant contains narcotics. Requires a sunny position; a slightly calcareous cactus compost; minimum temperature 45°F. *USA (Texas), Mexico (Northern areas).*

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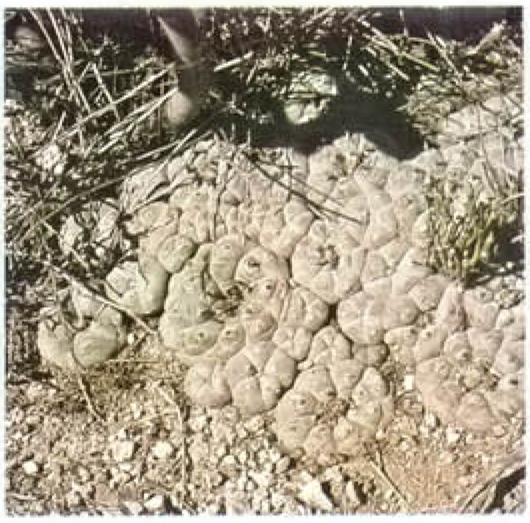

LOPHOPHORA **WILLIAMSII var. CAESPITOSA** Hort.

This is a clump-forming variety created by offsets developing from the base. Requirements are the same as for the species.

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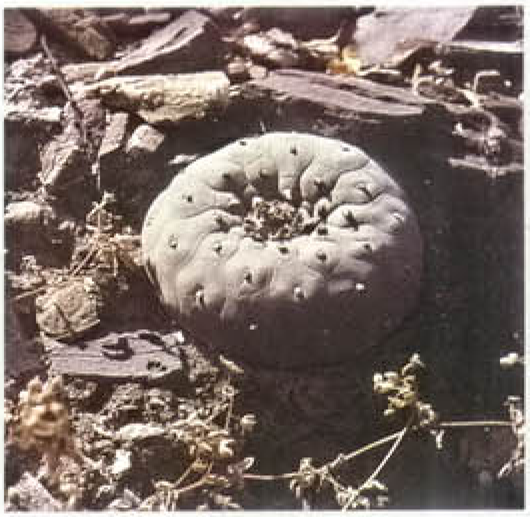

LOPHOPHORA **WILLIAMSII var. DIFFUSA**

A flat, globular, solitary plant to about 5in in diameter. It is bluish green or grayish blue with about 13 low, tubercled ribs and well-spaced small, white-felted, spineless areoles. The white flowers are about ¾in in diameter, and appear in daytime in summer. Requirements are the same as for the species. *Mexico (Queretaro).*

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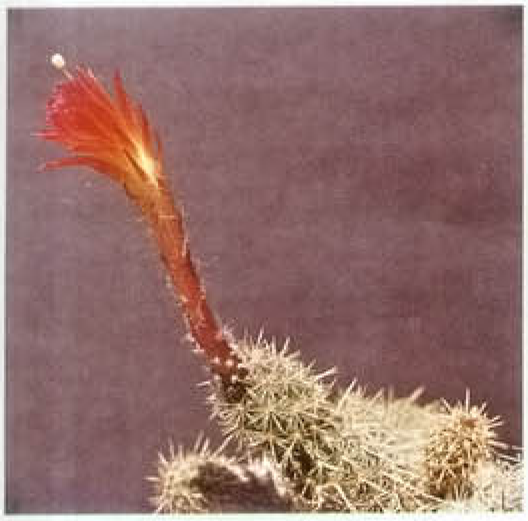

LOXANTHOCEREUS **CAMANAENSIS** Rauh & Backeb.

This plant is likely to be reclassified within another genus. A low-growing, branching species with stems about 8in long, 1½in thick and 13–14 ribs. Areoles are set about ½in apart, bearing six to ten silvery-gray to grayish-brown needle-like radial spines about ⅕in long, and one or two centrals to 1in in length. Flowers are zygomorphic, orange-red, and about 3¼in long; flowering in summer, they are diurnal. Requires a sunny position; normal cactus compost; minimum temperature 55°F. *Southern Peru.*

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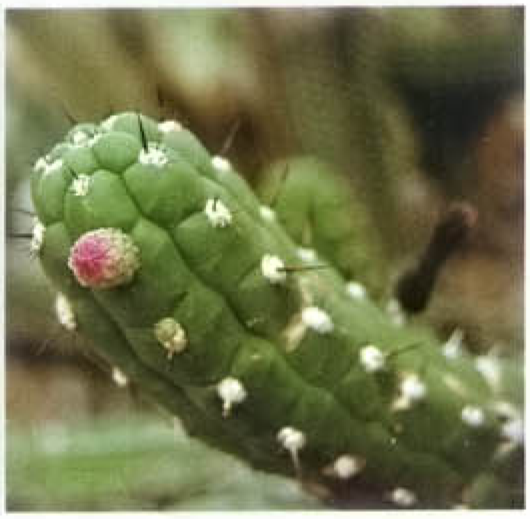

LOXANTHOCEREUS **GRANDITESSELLATUS** Rauh & Backeb.

This plant is likely to be reclassified, possibly within the genus *Cleistocactus.* A long cylindrical-stemmed species about 6½ft in length, 2in thick with six to seven notched ribs. The white woolly areoles are round, bearing purplish-brown spines consisting of six to eight radials up to ½in long, and one, rarely two, centrals to 2in. The red flowers are somewhat tubular, 2–2½in or more long, and are day flowering in summer. Needs a bright position; normal cactus compost; minimum temperature 55°F. *Central Peru.*

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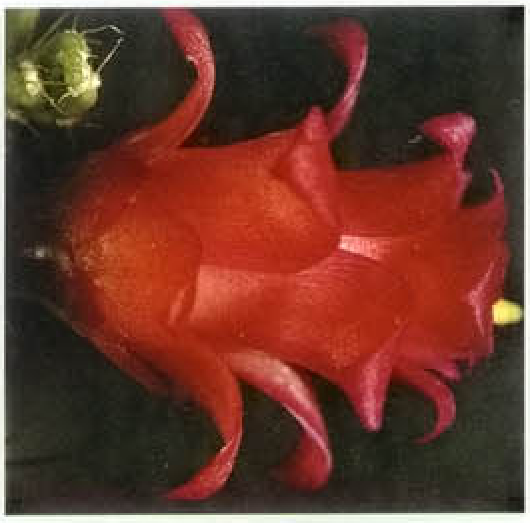

LYMANBENSONIA **MICRANTHA** Kimnach
Syn: *Acanthorhipsalis micrantha* Br. & R.; *Rhipsalis asperula* Vaup.

A somewhat sprawling plant, becoming quite shrubby. The two- to three-angled stems are 8in or more long, and the areoles have three to ten spines up to ½in in length. Flowers are bell-shaped to tubular, 1in long, and purplish red in color, appearing by day in early summer. Requires a bright position; normal cactus compost; minimum temperature 55°F. *Peru.*

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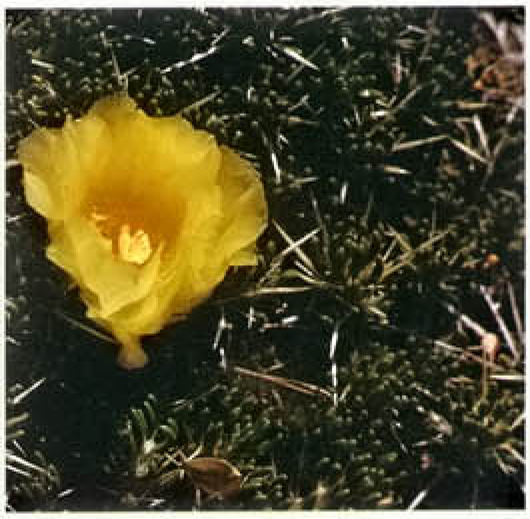

MAIHUENIA **POEPPIGII** (Otto) Weber
Syn: *Opuntia poeppigii* Otto

A low-growing, clustering species composed of many short cylindrical joints about 2½in long, ½–⅔in thick. It has fleshy green leaves about ⅕in long, and areoles with usually three to four very short spines, except for one which may be ¾in long. A summer, day flowering plant, the blooms are yellow, up to 1in long. It is winter-hardy in Europe or North America, tolerating zero temperatures, but it must be planted in very porous, enriched compost, preferably on sloping ground. Needs good light. *Chile (Talca).*

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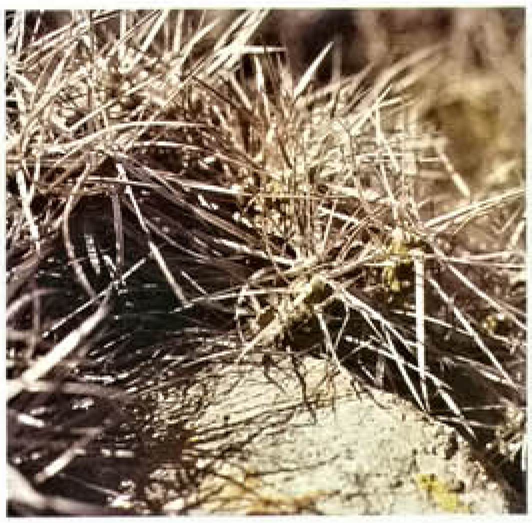
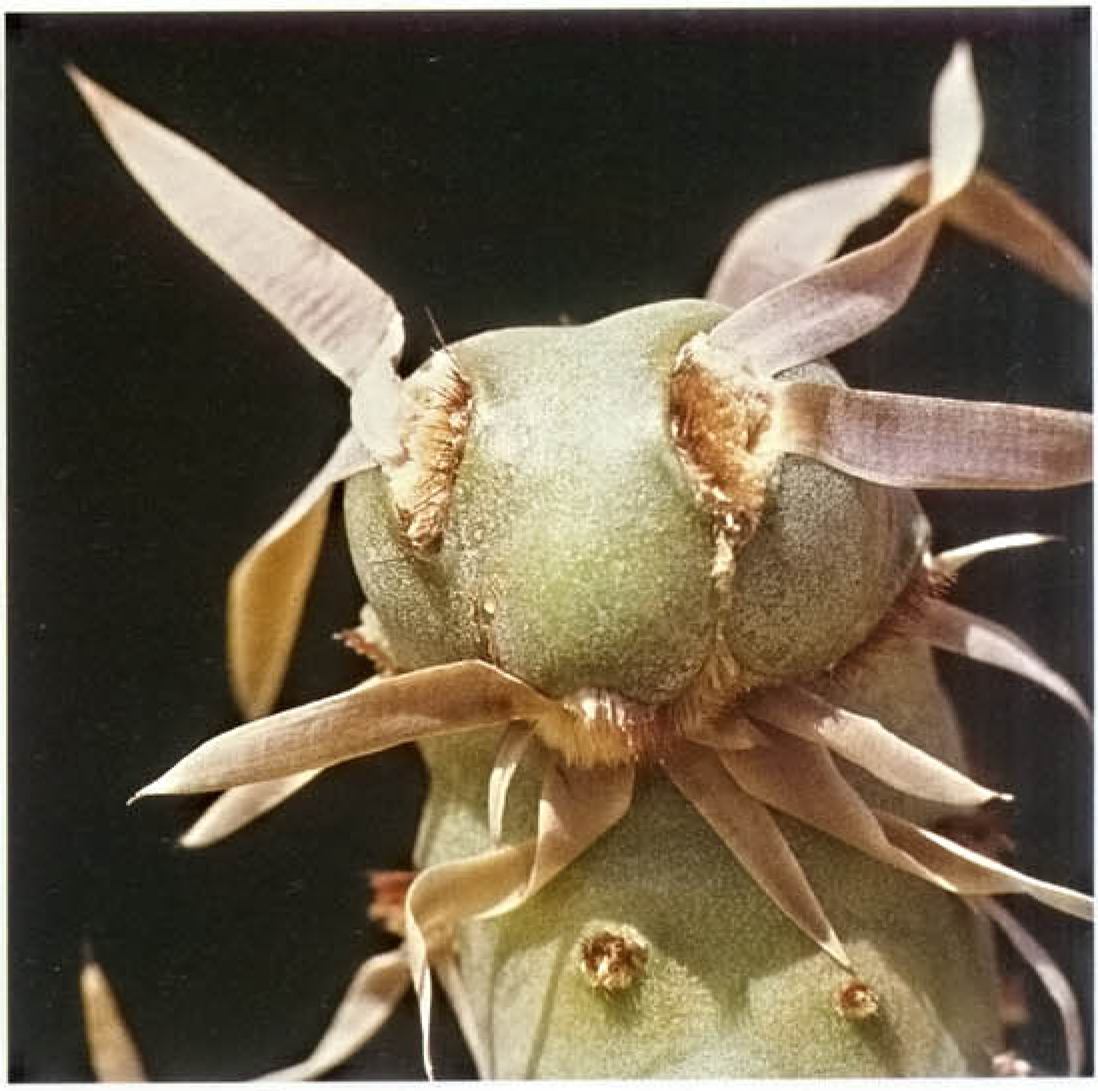


MAIHUENIOPSIS **DARWINII var. HICKENII** (Br. & R.) Kiesl.

Syn: *Opuntia hickenii* Br. & R.

A low-growing bushy species, densely branched. Each oval joint is ¾–1½in long and up to ¾in thick. The areoles are brownish yellow with tufts of yellowish glochids. Spines are whitish to brownish, about 2in or more in length, and usually up to five per areole, but are occasionally absent. Summer flowering, the yellow flowers are diurnal. Needs full sun; enriched mineral-based compost; minimum temperature 45°F. *Argentina (Rio Negro).*



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TEPHROCACTUS **GLOMERATUS** (Haw.) Backeb.

About 4in high, each joint ¾–1⅓in long and thick, dull green. White areoles with deep-set brown glochids, one to three flat spines from the upper areoles, ½–1in long and about ⅒in broad. The flowers are whitish, 1in across, by day in summer. Backeberg also records a variety *longispina* which could be the plant shown. Requires full sun; enriched mineral-based compost; minimum temperature 50°F. *Argentina.*

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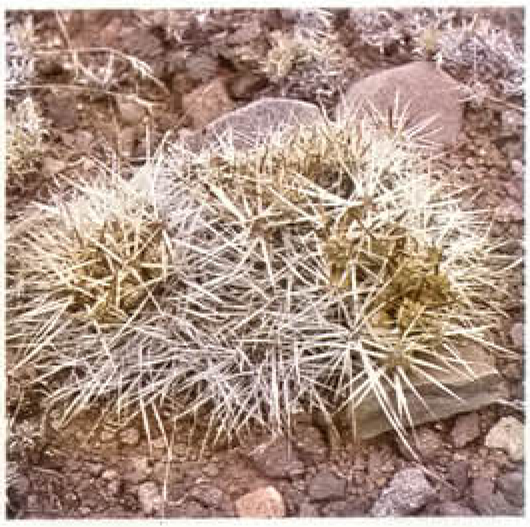
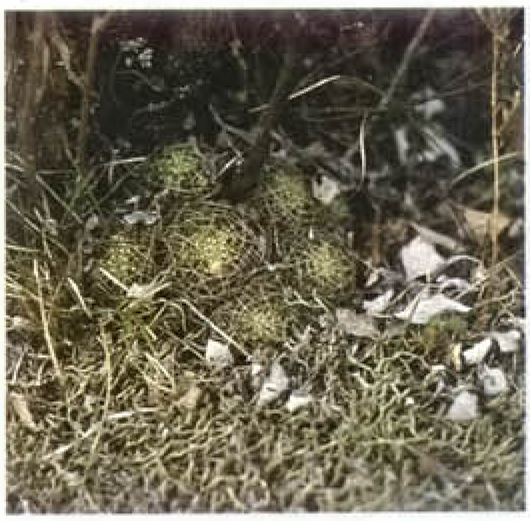
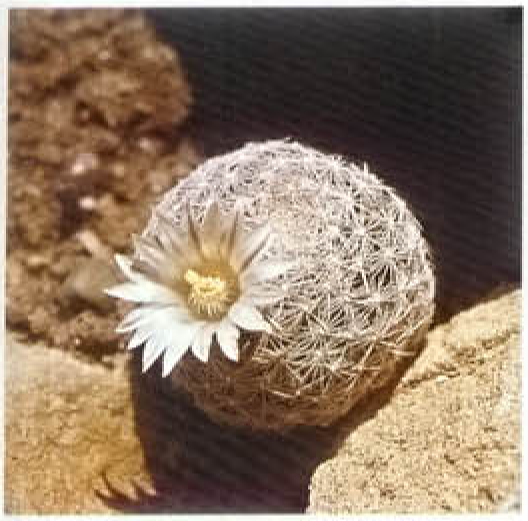




MAMMILLARIA **ALBESCENS** Tiegel

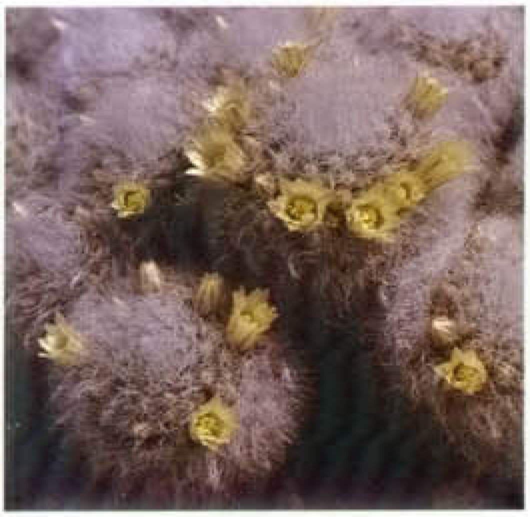
Syn: *Dolichothele albescens* (Tiegel) Backeb.

Possibly a variety of *M. camptotricha* Dams. A green clustering species, each globular stem has prominent tubercles up to ¾in long bearing four to six golden-yellow spines ⅓–⅔in in length. Day flowering in early summer, the flowers are ¾in long, ⅔in across when expanded, with greenish-white sepals and white petals. Requires bright light; normal cactus compost; minimum temperature 45°F. *Mexico (Queretaro).*



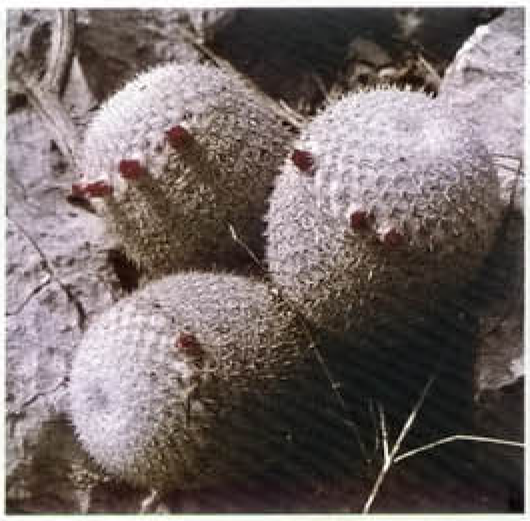
MAMMILLARIA **ALBIARMATA** Böed.

A solitary plant, globular with a slightly flattened crown, the stems are green, up to 1½in broad, ⅔in high. There are 20–25 whitish spines, ⅛–⅕in long, all radials. Flowers are diurnal, appearing in summer; they are ¾in long and across, the creamy-white petals having a pale-brownish median line. Requires a sunny position; normal cactus compost; minimum temperature 50°F. *Mexico (Coahuila near Saltillo).*



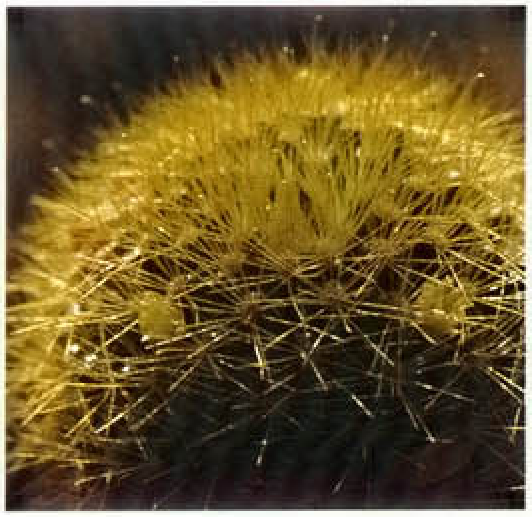
MAMMILLARIA **ALBICOMA** Böed.

A very attractive clustering species, each greenish stem is up to 2in high, 1in wide. The spines are numerous, white and hair-like, and totally cover the plants; of these there are 30–40 or more radials and one to four centrals, all to about ½in in length, the centrals often with reddish tips. Flowers are greenish yellow to creamy white and about ⅔in long, blooming by day in summer. Requires a position in good light, not necessarily full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Tamaulipas).*



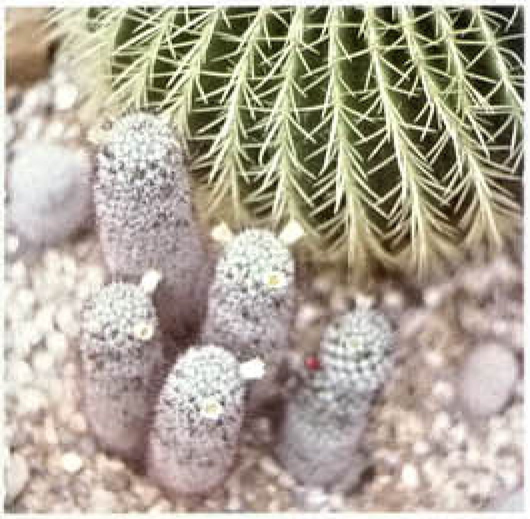
MAMMILLARIA **ALBILANATA** Backeb.

Backeberg's *M. fuauxiana* is now considered synonymous. Globular plants, usually solitary but likely to offset with age. The greenish stem, up to 6in high, 3¼in in diameter, is densely covered with whitish wool and spines; the 15–20 radials are ⅛–⅕in long and the two to four centrals ⅛in in length with a brownish tip. Flowering is in summer, and diurnal. The blooms are quite small, rich carmine and about ⅓in long. Needs full sun; very porous cactus compost with a little lime added; minimum temperature 50°F. *Mexico (Guerrero).*



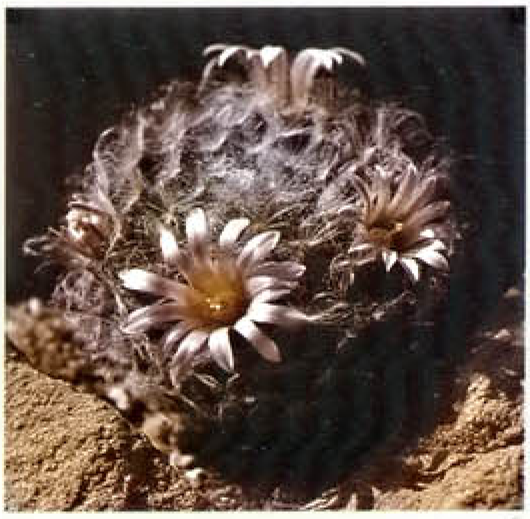
MAMMILLARIA **ANNIANA** Glass & Foster

A small, solitary, globular plant only discovered in 1979. The rich-green stem, ½–2in high, ⅔–2in in diameter, has tubercles arranged in eight to thirteen spirals. Areoles are yellowish white, bearing about 14 pale yellowish-white radial spines to ½in long, and five to nine golden-yellow centrals to ½in in length. Flowers are diurnal, in summer, pale yellow or greenish yellow and up to ¼in wide when fully open. Needs a bright position, which is essential; normal cactus compost; minimum temperature 50°F. *Mexico (Tamaulipas).*



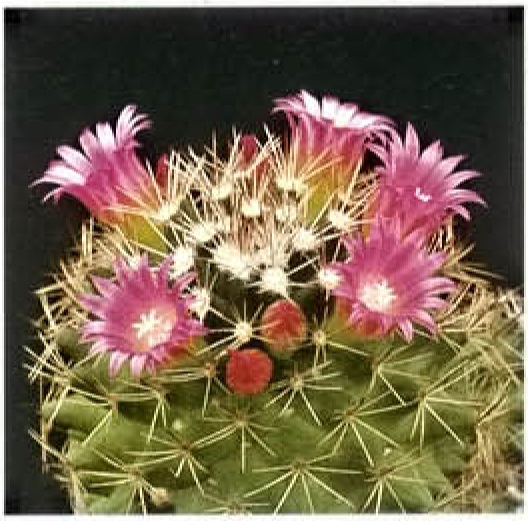
MAMMILLARIA **ARMILLATA** K. Brand.

A narrowly columnar plant, solitary or clustering, it is about 1ft high, 1¾in wide, and dull green. There are nine to fifteen whitish or yellowish radial spines up to ½in long and one to four centrals to ¾in in length. The flowers, which are diurnal, are pale pink or creamy white, ½in long, ¾in across, appearing in mid-summer. Requires a bright, sunny position; normal cactus compost; minimum temperature 50°F. *Mexico (Baja).*



MAMMILLARIA **AUREILANATA** Backeb.

A solitary, globular plant, dark green in color, up to 3in tall and broad. The areoles have whitish, almost silky spines appearing rather woolly, of which 25–30 are radials to ⅔in in length; there are no centrals. It flowers during daylight in summer. Requires very bright light; normal cactus compost; minimum temperature 50°F. *Mexico (San Luis Potosi).*



MAMMILLARIA **BACKEBERGIANA var. ERNESTII** (Fittkau) Glass & Foster
Syn: *Mammillaria ernestii* Fittkau

A globular plant, occasionally offsetting, to about 2½in thick. It has dark-green tubercles tipped with areoles bearing seven to eight yellowish radial spines with brownish tips and one upward-pointing brownish central, all varying from ⅕–½in long. The purplish-red flowers are about ⅔in long set around the crown of the plant. It is day flowering in summer. Requires bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Federal State).*

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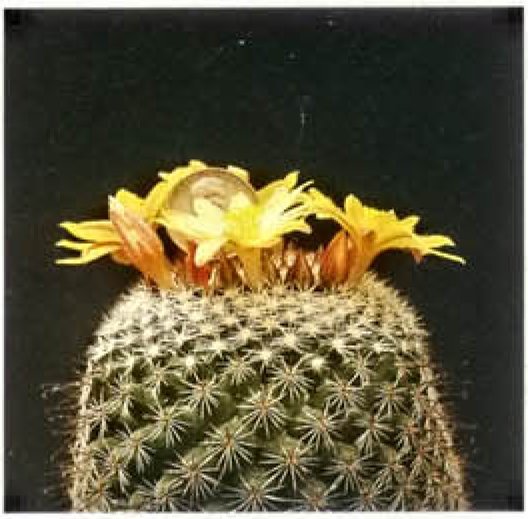

MAMMILLARIA **BALSASOIDES** Craig
Syn: *Mammillaria beneckei*

Closely allied to, possibly synonymous with, *M. beneckei* Ehrenb. It is a solitary, globular plant about 3in in diameter with a few long bristles in the axils of the tubercles. The radial spines are white, 10–11 in number, and about ¼in long; there are four centrals to ⅖in in length. Day flowering, in summer, the flowers are 1½in across, orange with green outer segments. Needs fairly bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Guerrero).*

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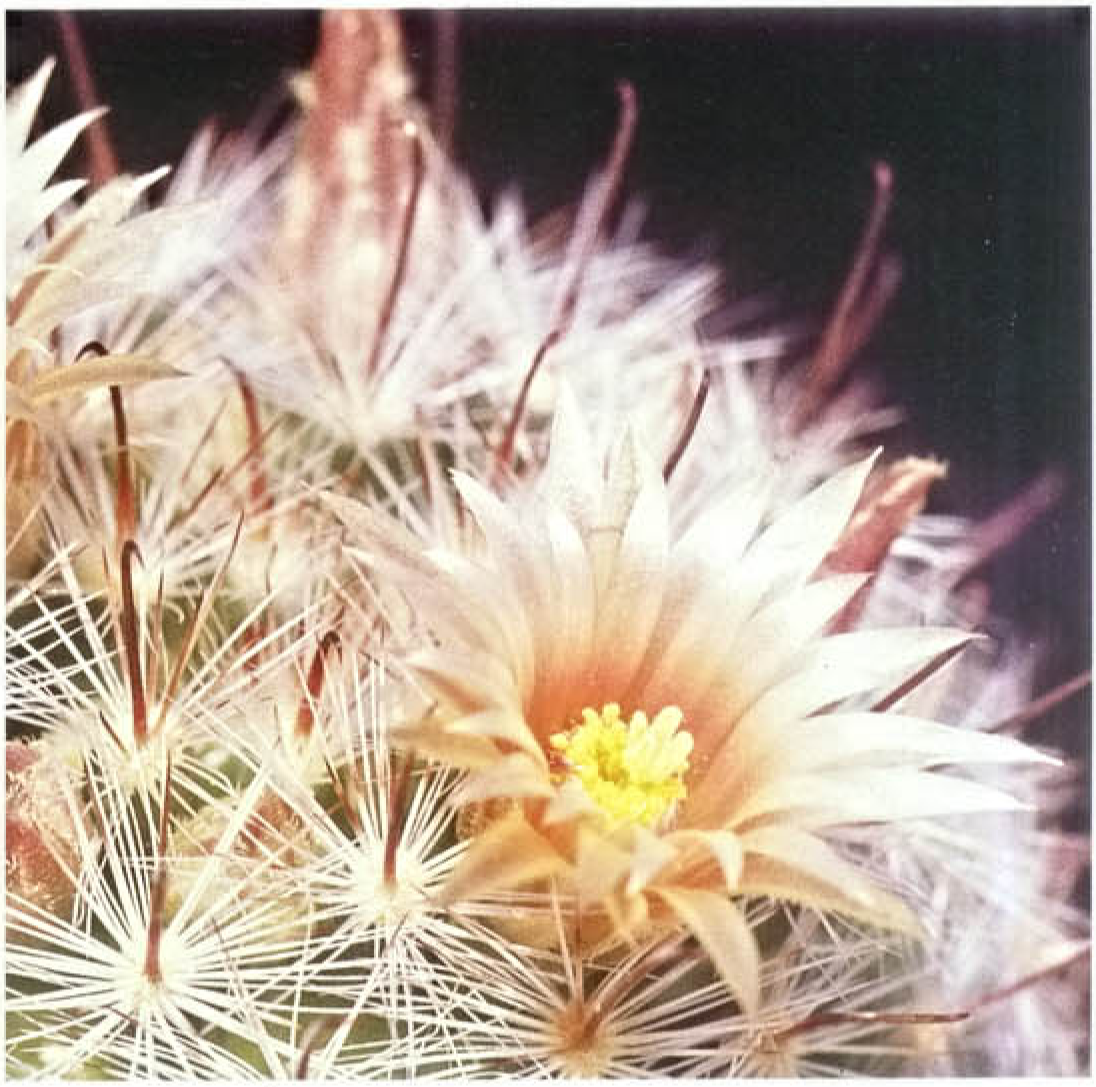

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MAMMILLARIA **BARBATA** Engelm.

Globular plants, often clustering. Each stem is apple green, 1–2in in diameter, with numerous, wide-spreading, slender spines consisting of 50–60 white radials, often with brownish tips, ¼–⅓in long, and one or two brown hooked centrals to ⅔in in length. A summer, day-flowering species, the flowers are pale straw-colored and ⅔–¾in long. Requires a sunny location; normal cactus compost; minimum temperature 45°F. *Mexico (Chihuahua).*

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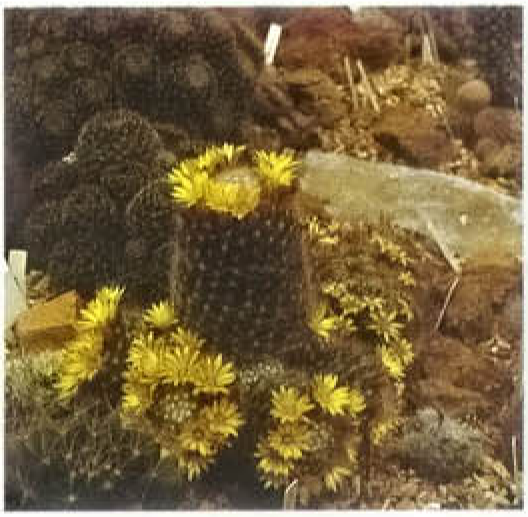

MAMMILLARIA **BAUMII** Böed.
Syn: *Dolichothele baumii* (Böed.) Werd. & Buxb.

An attractive white-spined clustering species with slightly elongating stems up to 3¼in high, 1–2½in wide. It has prominent tubercles, and initially white woolly axils. Areoles bear 30–35 white, thread-like radial spines ½in long and five to six pale-yellowish centrals to ⅔in. Flowers are diurnal in summer, bright yellow, they are 1in long and across when fully open. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Mexico (Tamaulipas).*

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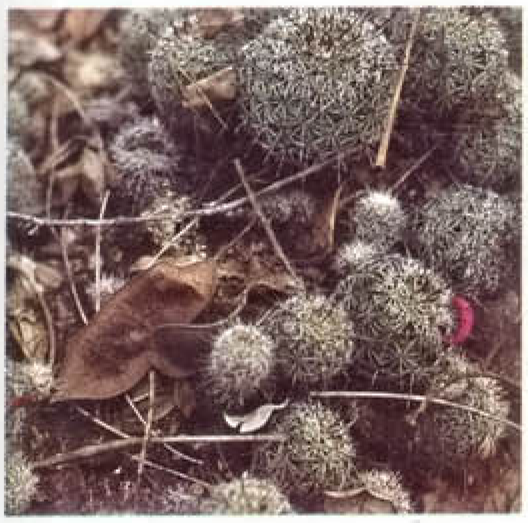

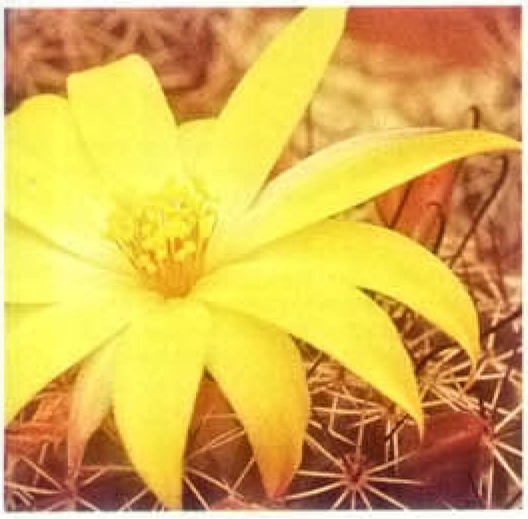

MAMMILLARIA **BENECKEI** Ehrenb.
Syn: *Dolichothele beneckei* (Ehrenb.) Backeb.; *Oehmea nelsonii* (Br. & R.) Buxb.

M. guiengolensis Bravo is considered synonymous. Stems are globular to elongating and clustering; they are covered with yellowish-green tubercles and are slightly woolly in the axils. There are 12–15 white radial spines with blackish tips, and usually two to six darker centrals with one hooked. Flowers are diurnal in early to mid-summer; these are bright yellow. Requires bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Guerrero).*

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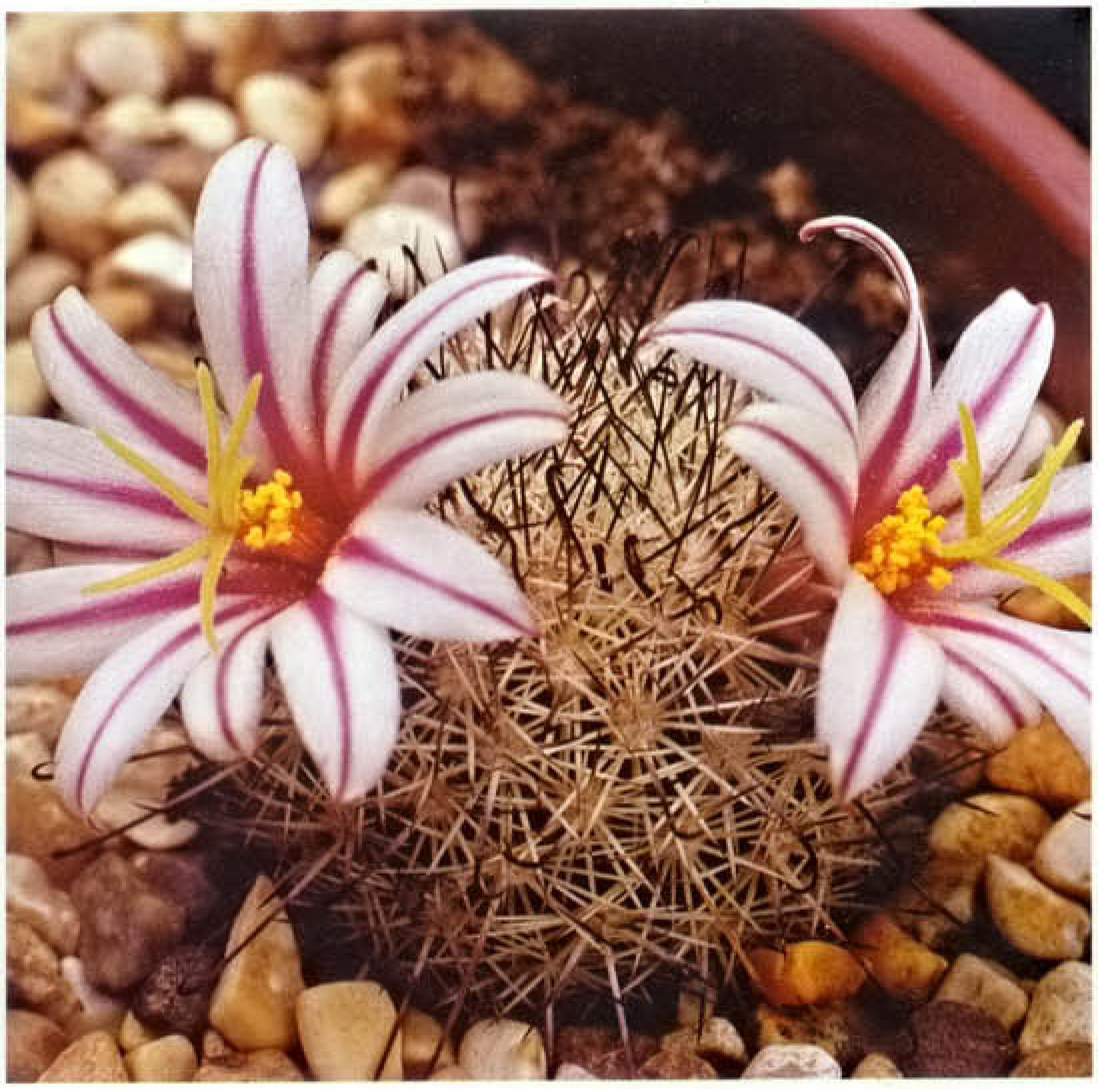

MAMMILLARIA **BLOSSFELDIANA** Böed.
Syn: *Mammillaria shurliana* Gat.

A globular, solitary species about 1½in in diameter. It is dark green with close-set areoles bearing 15–20 yellowish, black-tipped radial spines ⅕–⅓in long and three to four black centrals ½in in length, one being hooked. Flowers are diurnal, in early summer, and are about 1⅓in long, ¾in across, pale pinkish with a deep carmine-red center stripe. Requires bright light; normal cactus compost; minimum temperature 55°F. *Mexico (Baja).*

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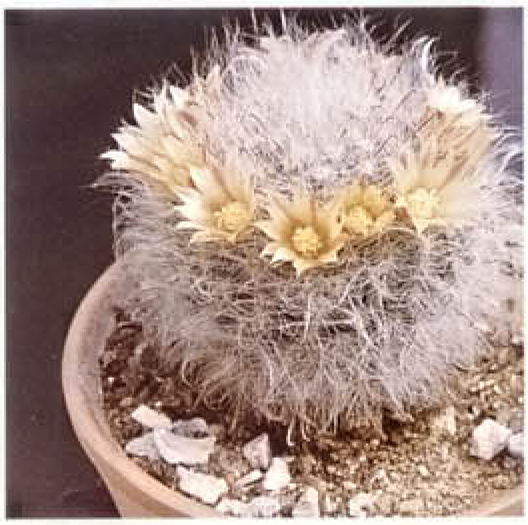

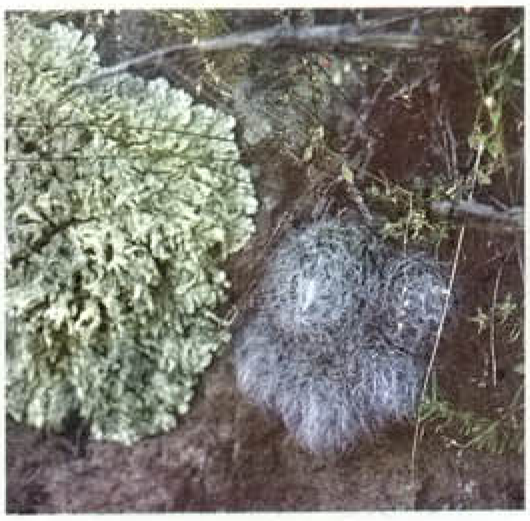

MAMMILLARIA **BOCASANA** Poselg.

A dark bluish-green, freely clustering globular species, each stem is 1½–2in in diameter. Tubercles are fairly close-set up to ½in long, the axils having many thin white hairs. Areoles produce 25–30 fine, white, spreading radial spines to ¾in long and one or two yellowish-brown centrals of similar length, one hooked. Flowers are diurnal, in summer, yellowish white with a reddish median line and petals that are often tipped red. Requires very slight shade; normal cactus compost with a little lime added; minimum temperature 50°F. *Mexico (San Luis Potosi).*

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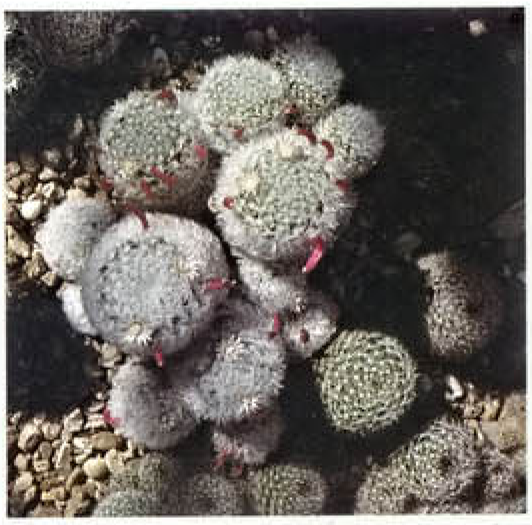

MAMMILLARIA **BOCASANA** Poselg. **var. MULTILANATA** hort.

This is similar in most respects to the species, but the dense wool gives it particular significance. Requirements are the same as for the species. *Mexico (San Luis Potosi).*

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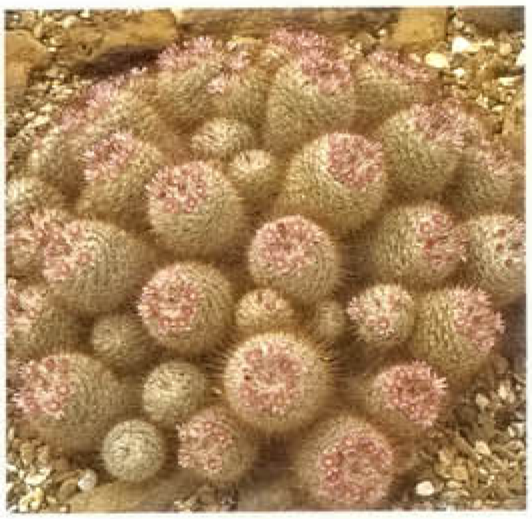

MAMMILLARIA **BOMBYCINA** Quehl.

Globular plants to about 3in high, 2–2½in in diameter, forming large clumps. They have somewhat cone-shaped tubercles and dense white wool in the axils. Areoles bear 30–40 whitish, thin radial spines ⅓in in length and four yellowish or reddish-brown centrals up to ½in long, the lower one being hooked, ¾in in length. Flowers are reddish purple, about ⅔in long and wide, appearing by day in mid-summer. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (San Luis Potosi, Coahuila).*

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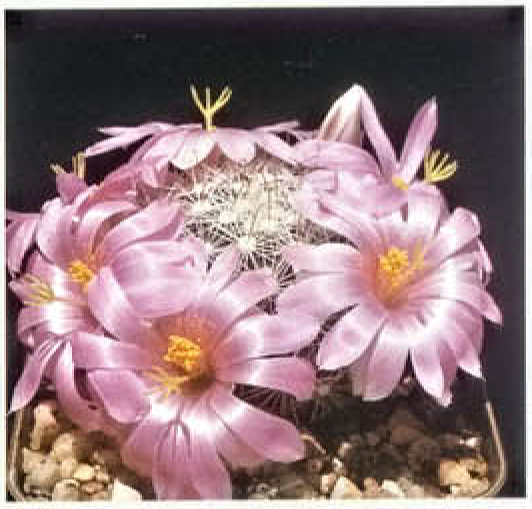

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MAMMILLARIA **BOOLII** Linds.

A very small globular, solitary species to 1⅓in high, 1in in diameter. It has roundish tubercles, woolly axils, and areoles with about 20 whitish radial spines ⅔in long, and one brown, hooked central to ¾in in length. Day flowering in summer, the flowers are pinkish red and about 1in or little more long and across. Requires a very bright position; normal cactus compost with a little lime added; minimum temperature 55°F. *Mexico (Sonora, San Carlos Bay).*

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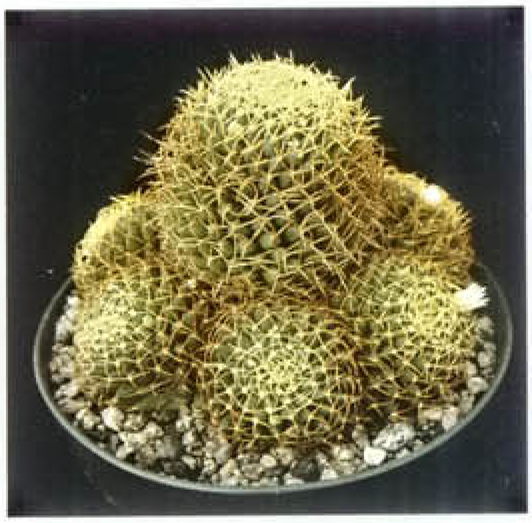

MAMMILLARIA **CAMPTOTRICHA** Dams.
Syn: *Dolichothele camptotricha* (Dams.) Tiegel

A globular plant which clusters freely, about 3in in diameter. The type species has about four to eight bristly, yellowish radial spines over 1in long but no centrals. That depicted is a peculiar form with much shorter spines. Flowers are white, about ¾in long, ½in across; they are diurnal, in spring and summer. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Queretaro).*

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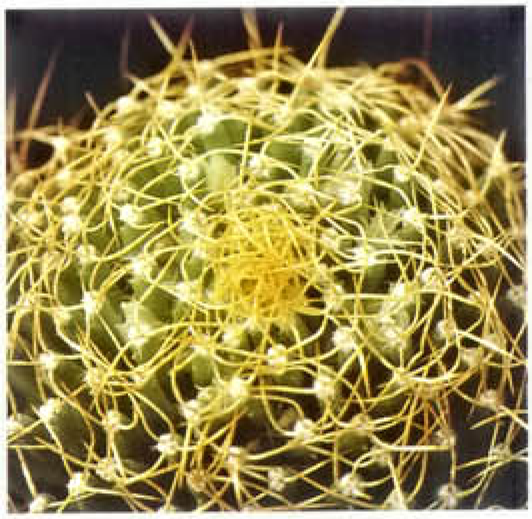

MAMMILLARIA **CAMPTOTRICHA**
cv. 'Mme Marnier' Glass & Foster

This is just one of a number of forms of this quite variable species, and the varietal title cannot be upheld. It is only a name used in certain catalogs in describing this very attractive plant.

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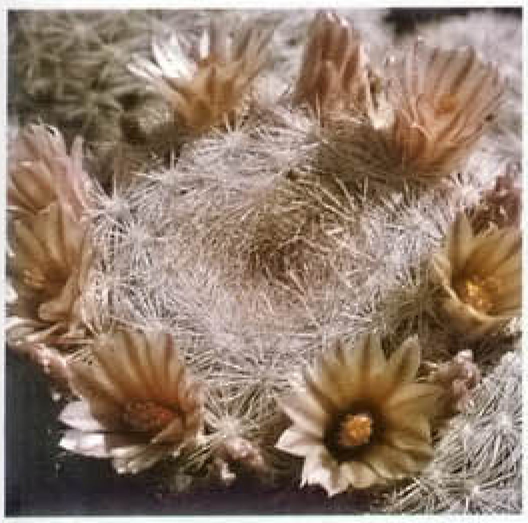

MAMMILLARIA **CANDIDA** Scheidw.
Syn: *Mammillaria ortiz-rubiona* (Bravo) Werd.

The plants are solitary or clustering, globular becoming elongated, and 2½–4¾in thick. There are bluish-green tubercles and the axils have four to seven white bristles. Round, woolly areoles carry 50 white, spreading radial spines and six to twelve pinkish-white centrals, ⅕–⅖in long. Day flowering in summer, and are about ¾in long, rose pink with white margins. Slight shade; normal cactus compost; minimum temperature 50°F. *Mexico (San Luis Potosi).*

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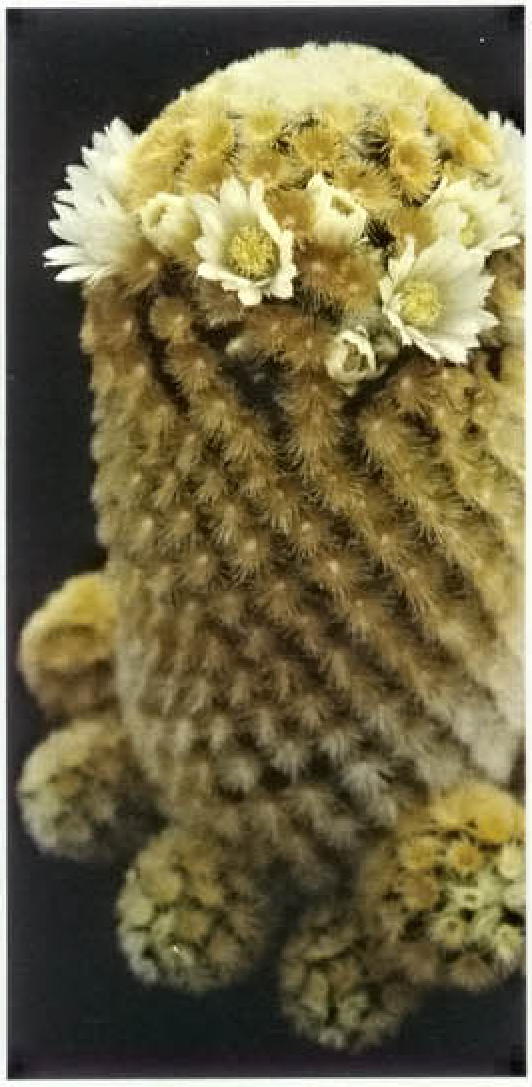

◀ MAMMILLARIA **CARMENAE** Castan.

A globular, clustering species. Each body is 1–1½in in diameter, often elongating to 2–2½in tall, with wool and bristles in the axils. The whitish areoles have numerous white or yellowish radial spines up to ⅕in long, but no centrals. Day flowering in mid-summer, the whitish blooms are about ½in long and across. Requires a bright location; normal cactus compost; minimum temperature 50°F. *Mexico (Tamaulipas).*

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MAMMILLARIA **CARNEA** Zucc. ex Pfeiff.

A globular species, becoming elongated, either solitary or clustering. It has angular tubercles and yellow, woolly axils. There are four to five pinkish-brown, often black-tipped spines, varying in length from ⅓–¾in. Flowers are diurnal in summer. These are pale pink with a darker median line on the petals, ⅔–¾in long, ½–⅔in across, and are followed by a brilliant display of red fruits (shown here). Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Hidalgo, Guerrero, Puebla and Oaxaca).*

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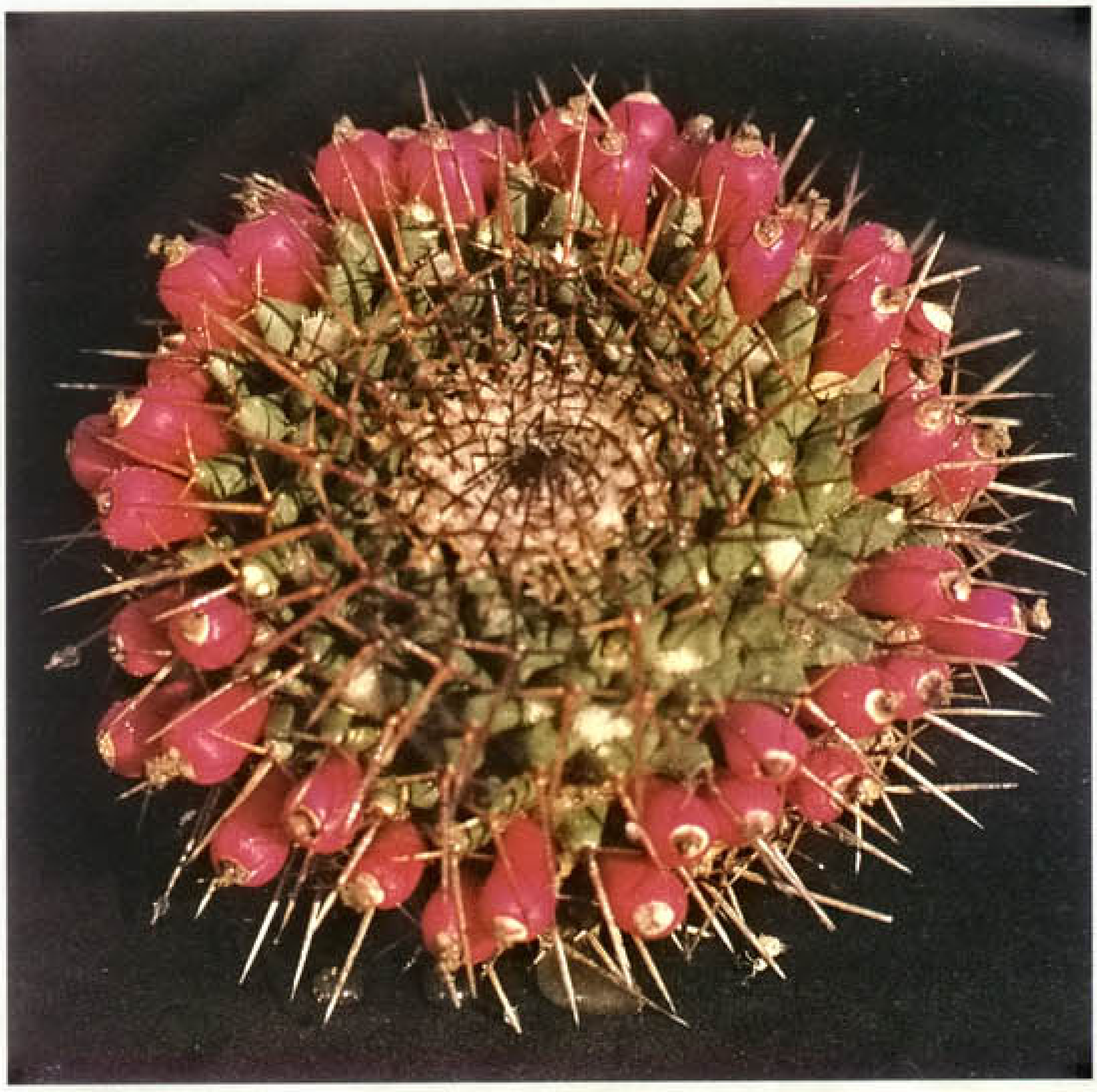

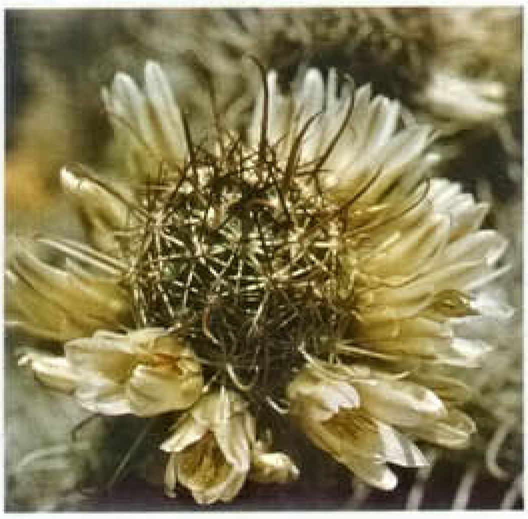

MAMMILLARIA **CAPENSIS** (Gates) Craig

A slightly clustering species. The stems are olive green, up to 10in long, 1–2in thick. The 13 radial spines are white at the base, reddish black at the tips, and ⅓–⅔in long, and there is one hooked central, similarly colored, to ¾in in length. Flowers are pink or whitish, ¾in long and across, appearing by day in summer. Needs sun; normal cactus compost; minimum temperature 55°F. *Mexico (Baja).*

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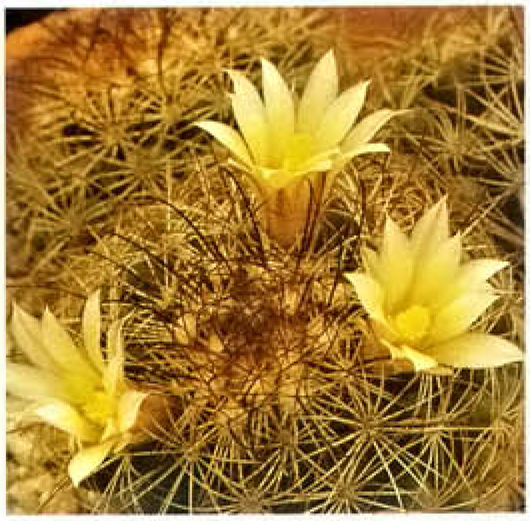

MAMMILLARIA **CARRETII** Rebut ex K. Sch.
Syn: *Mammillaria saffordii* (Br. & R.) Bravo

A small roundish species, becoming slightly elongated, usually solitary, but sometimes offsetting from the base. The tubercles are tipped with areoles producing 14–15 yellowish radial spines up to ½in long and one brown, hooked central to ⅔in in length. Flowers, diurnal in summer, are white or pale yellowish with a faint pink central stripe. They are slightly scented, and up to 1in long, ⅔in across. Requires bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Nuevo Leon).*

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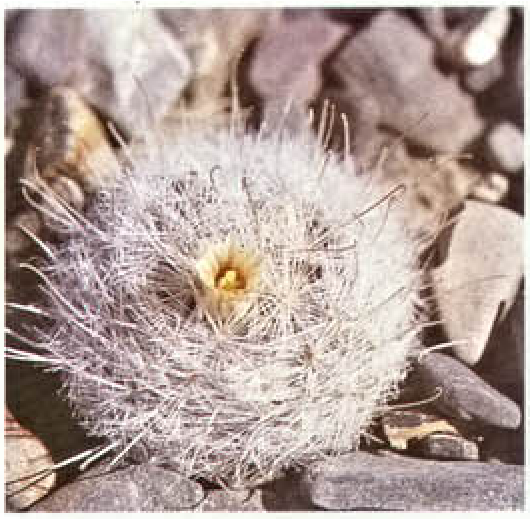

MAMMILLARIA **CHICA** Reppenhagen
Syn: *Mammillaria aguirrei* nomen nudum

Bright-green globular plants, rarely clustering, 1½–2in high and 1–1½in thick. The tubercles are cylindrical, the axils slightly woolly. Areoles bear 35–50 whitish radial spines ¹⁄₁₀–⅕in long, and there are one or two similarly colored centrals tipped dark brown and hooked, ⅓in long. Day flowering in mid-summer, the flowers are reddish white, sometimes more yellowish with a reddish median line, and about ⅔in long. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Queretaro).*

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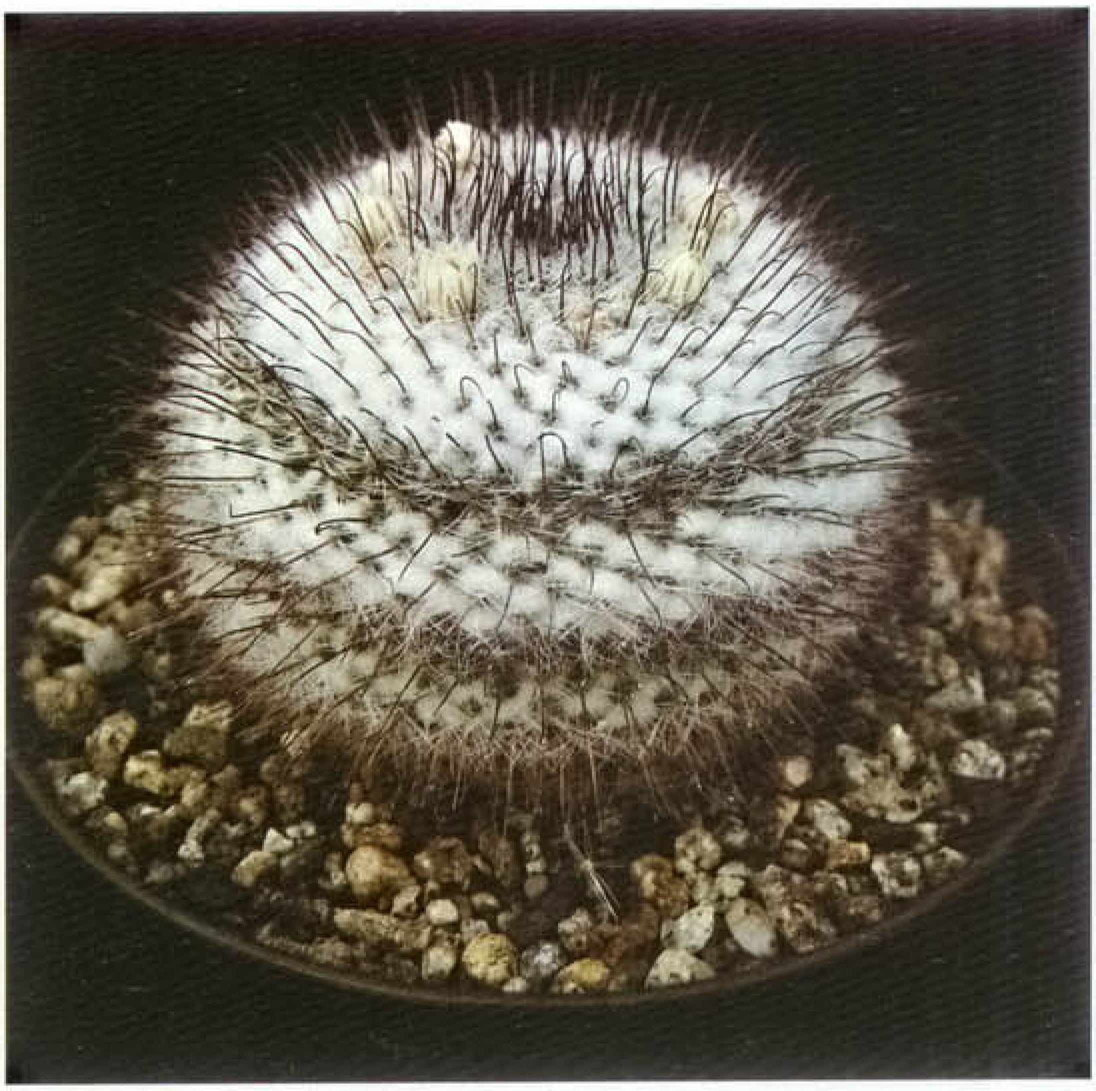

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MAMMILLARIA **CHIONOCEPHALA** Purp.
Syn: *Mammillaria ritterana* Böed.

A solitary, globular plant, later developing offsets to form clusters. The bluish-green stems are up to 4¾in high and wide, with four-edged tubercles and thick white woolly axils. There are 22–24 white radial spines about ⅓in long, and two to six white or brownish centrals to ¼in in length, tipped black and hooked. The flowers are white to pale pink with a reddish median line on the petals; by day in summer. Requires full sun; normal cactus compost with lime added; minimum temperature 50°F. *Mexico (Coahuila, Durango).*

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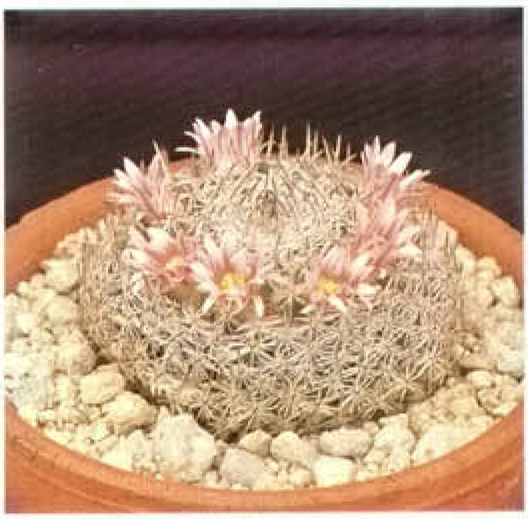

MAMMILLARIA **COLLINA** Purp.

Possibly a synonym of *M. haageana* Pfeiff. A grayish-green globular species up to 5in in diameter, having a rather flattened top, with cylindrical tubercles and axils scarcely woolly. Areoles have 16–18 straight, white radial spines ⅓in long, and one or two white, brown-tipped centrals to ⅓in in length. Flowers are pinkish red, ⅔–¾in long, and are diurnal in summer. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Puebla).*

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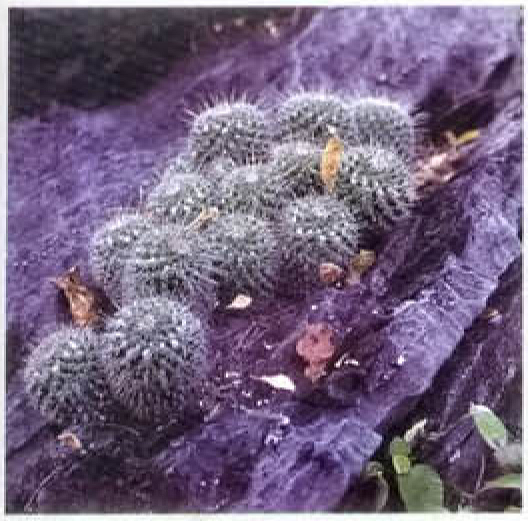
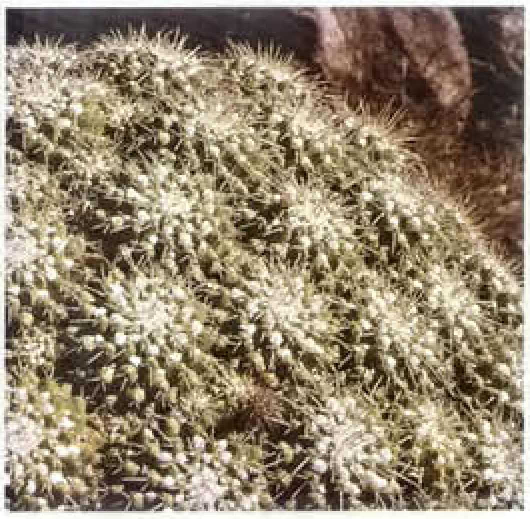


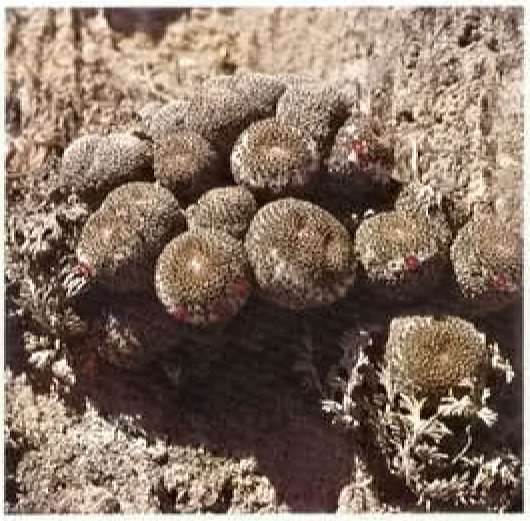
MAMMILLARIA COLLINSII (Br. & R.) Orc.

A group-forming species, each globular head is about 2½in diameter, greenish brown to purplish with woolly and bristly axils. The areoles bear yellowish spines: about seven radials ⅕–⅓in long with brownish tips, and one long central to ½in. Flowering in daytime in early to mid-summer, the flowers are yellowish with a pink center stripe, and about ⅔in long and wide. Requires full sun; normal cactus compost with a little lime added; minimum temperature 55°F. *Mexico (Oaxaca).*



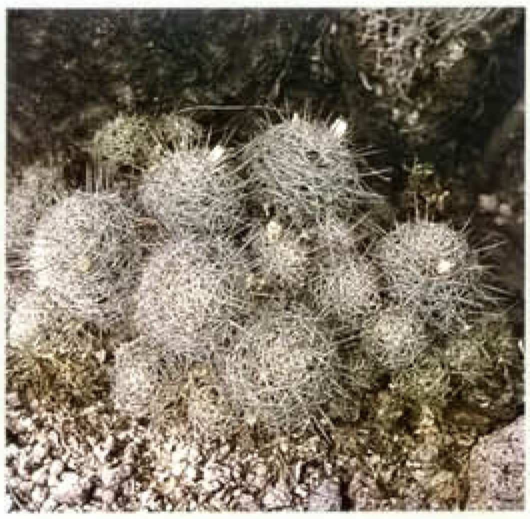
MAMMILLARIA COMPRESSA DC.
Syn: *Mammillaria sietziana* Mart.

A most variable species. The more or less globular plant readily offsets to form large clusters, each head about 3¼in wide. The prominent tubercles have white woolly, bristly axils and areoles bearing two to six white or pale-brownish radial spines ⅛–⅓in long. Flowers are diurnal in summer, and are deep purplish red, up to ⅔in long and across. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (San Luis Potosi, Queretaro).*



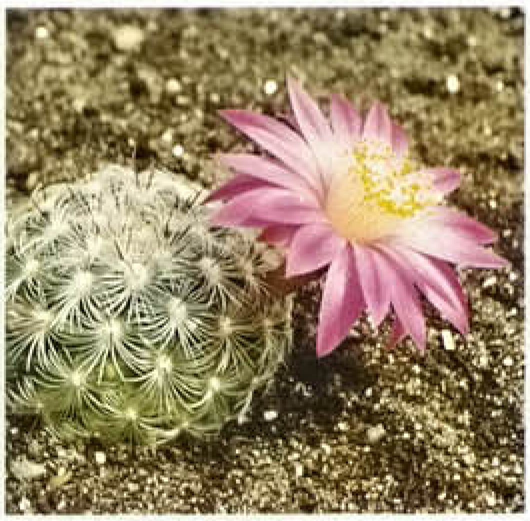
MAMMILLARIA CRUCIGERA Mart.

A partially elongating, clustering species. Each head is about 1½in across, dark brownish green with close-set tubercles, and has white woolly axils and areoles bearing 24 or more minute white radial spines ⅛in long with four to five yellowish centrals of similar length. Flowering is in summer, and is diurnal; the flowers are very small, pinkish purple. Careful watering is essential. Requires full sun; normal cactus compost with lime added; minimum temperature 55°F. *Mexico (Oaxaca, Puebla, Hidalgo, San Luis Potosi).*



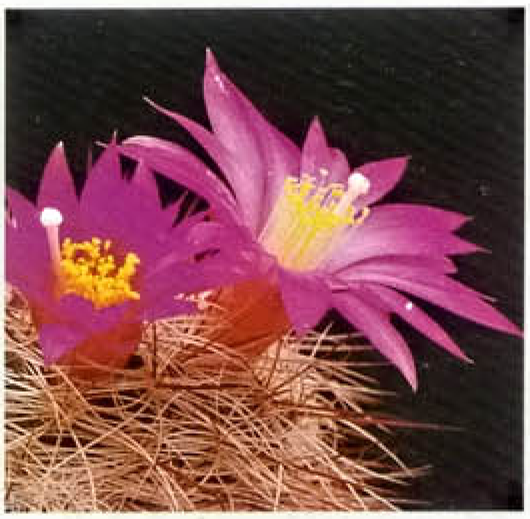
MAMMILLARIA DECIPIENS Scheidw.
Syn: *Dolichothele decipiens* (Scheidw.) Tiegel

A dark grayish-green globular, clustering species with tubercles about ½in long, and woolly axils with about four bristles. The areoles bear seven to eight pale yellowish or whitish radial spines ½in long and one or two yellowish, brownish-tipped centrals up to ⅔in in length. Flowers are diurnal, in summer; they are ⅔–¾in long, white with a pinkish-red median line. Requires bright light; normal cactus compost; minimum temperature 50°F. *Mexico (San Luis Potosi).*



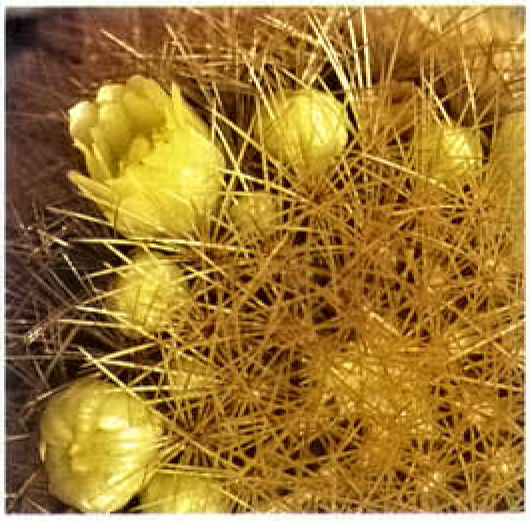
MAMMILLARIA DEHERDTIANA Farwig

A solitary, globose species, with a compressed crown, up to 1in high, 1¾in wide with woolly axils. The white areoles carry 33–36 pale-yellowish or white radial spines 1/10–⅕in long and one to six dark reddish-brown centrals 1/10–⅓in long, often absent. Flowering in early to mid-summer, diurnal; pale pinkish violet with a darker center stripe and tip to the petals, about 2in diameter, and on a tube ½in in length. Requires a sunny position; normal cactus compost; minimum temperature 55°F. *Mexico (Oaxaca).*



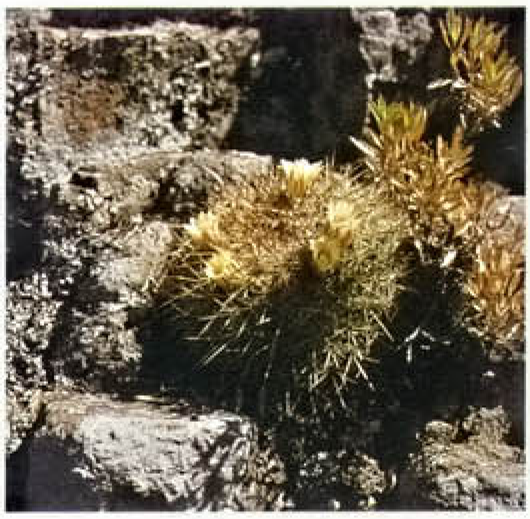
MAMMILLARIA DEHERDTIANA var. DODSONII (Bravo) Glass & Foster
Syn: *Mammillaria dodsonii* Bravo

A high-altitude plant, similar in shape and size to the species. Areoles bear 20–21 whitish, curved radial spines to ⅔in long and three to five brownish centrals ½–¾in in length. Flowers are diurnal; they are a deeper rose violet, fading to a lighter shade, but with a prominent protruding white style. Requirements are the same as for the species. *Mexico (Oaxaca).*



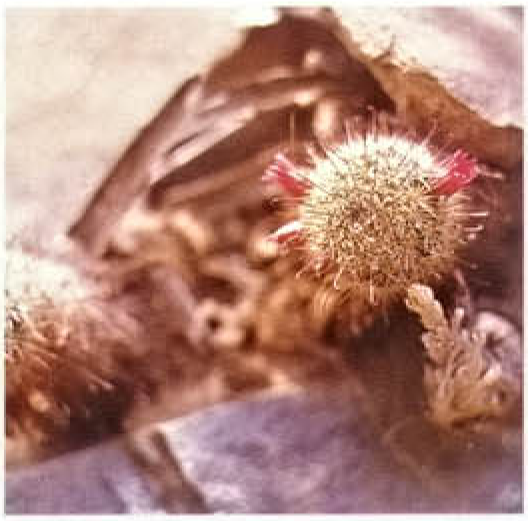
MAMMILLARIA DENSISPINA (Coult.) Orc.
Syn: *Cactus densispina* Coult.

A globular, solitary plant. The tubercles are conical, the axils only woolly for a time, and the areoles bear about 25 yellow or brown radial spines to ½in long and reddish-brown centrals to ¾in in length. Flowering by day, early to mid-summer, with sulfur-yellow inner petals, the outer ones sometimes reddish; they are about ½in long, ¾in across. Requires a sunny position; normal cactus compost; minimum temperature 50°F. *Mexico (San Luis Potosi, Queretaro).*



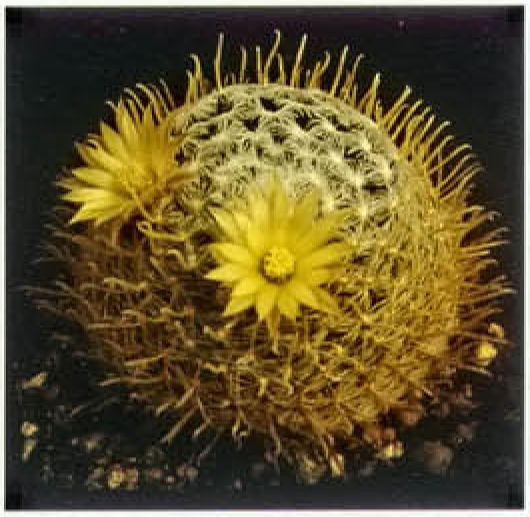
MAMMILLARIA DISCOLOR Haw.

Globular or slightly cylindrical, pale bluish-green plants, solitary or clustering, 1½–3in high and 1½–2in wide. The tubercles are conical, the axils without wool or bristles. Areoles have 16–20 white radial spines to ½in long, and five to eight yellowish centrals, sometimes brownish, of similar length. Flowers are diurnal, in summer; about ¾in long, ⅔in across, yellow with a reddish center line on the outer petals, sometimes pink with a deeper median line. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Puebla).*



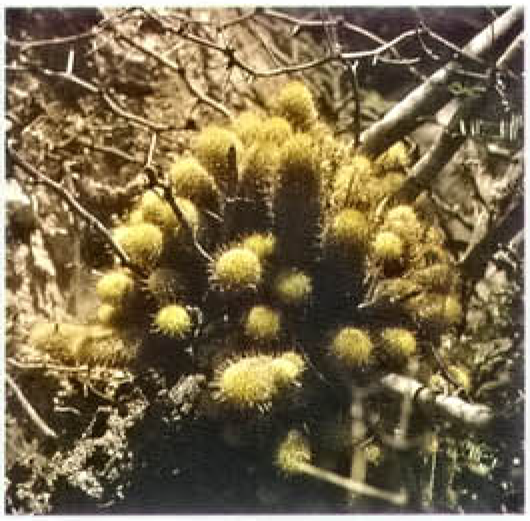
MAMMILLARIA DUOFORMIS Craig & Dawson

Somewhat cylindrical, often clustering; 1–1½in thick, and up to 3½in high. The tubercles are conical, the axils with few bristles, while the areoles bear 18–20 whitish, radial spines up to ⅓in long and four blackish-brown centrals to ½in in length. Flowers appear by day in summer, red, about ⅔in long, ½in across. Requires very bright light; normal cactus compost with a little lime; minimum temperature 50°F. *Mexico (Puebla to Oaxaca).*



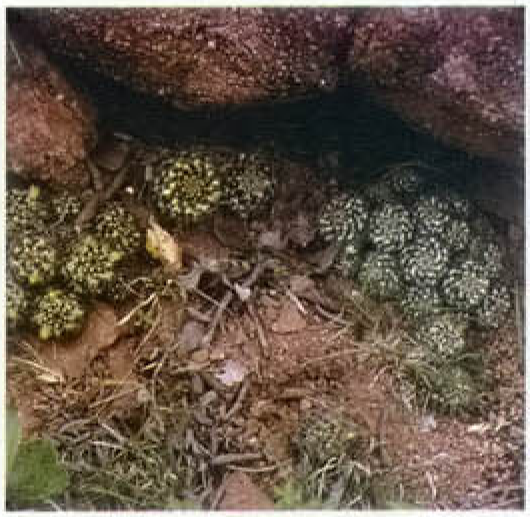
MAMMILLARIA DUWEI Rogozinski & P. J. Braun

Closely allied to *M. nana* Backeb. The plants are solitary, up to ⅔in tall, ¾–1in in diameter, and fresh green in color, with cylindrical tubercles and woolly, bristly axils. Areoles have 30–40 fine, hairy whitish radial spines and one or two centrals ⅕–¼in in length. Day flowering in summer, the flowers are pale yellowish, about ⅔in in diameter. Needs a sunny position; normal cactus compost; minimum temperature 50°F. *Mexico (San Luis Potosi, Guanajuato).*



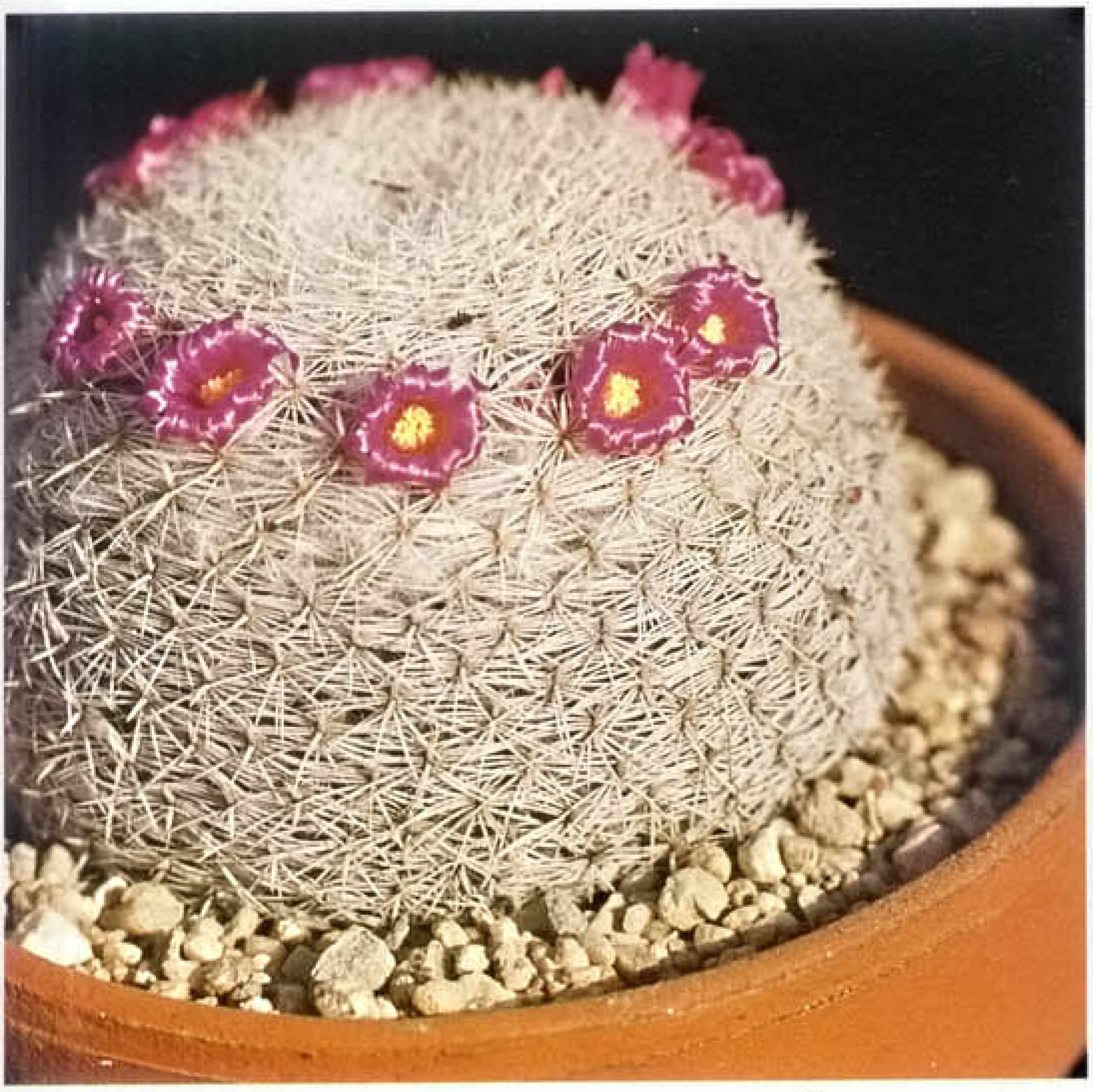
MAMMILLARIA ECHINARIA DC.

A clustering species which is closely allied to both *M. elongata* and *M. gracilis* and possibly synonymous or a variety of one or the other. The stems, up to about 4in tall, 1–1½in thick, are armed with many yellowish radial spines and three to five centrals, the latter being up to ⅔in long. Flowers are a pale yellow, about ½in long and across, and appear by day in summer. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Hidalgo).*



MAMMILLARIA EICHLAMII Quehl.

A freely clustering species. Each head is yellowish green, about 6in high, 1½–2½in thick, with slightly angular, conical tubercles and whitish or yellowish woolly axils. The areoles bear seven to eight whitish radial spines tipped with black and ¹⁄₁₀–⅕in long, and one yellowish central tipped with red and up to ½in in length. Flowers are creamy yellow with a dark reddish line down the center of the outer petals, and are day flowering in early summer. Requires full sun; normal cactus compost; minimum temperature 55°F. *Mexico (Chiapas), Guatemala.*



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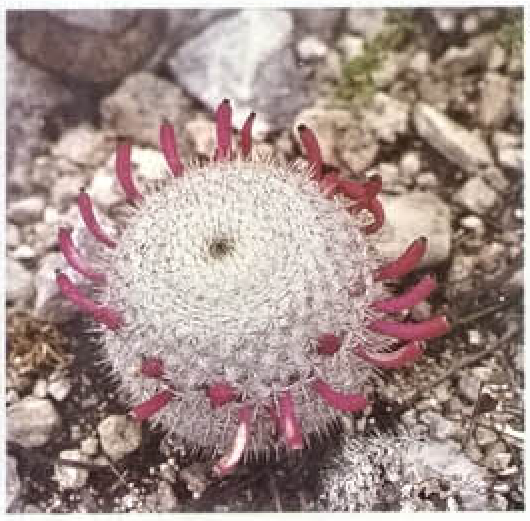

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MAMMILLARIA **ELEGANS** DC.
Syn: *Mammillaria dealbata* Otto

Synonymous with *M. haageana*. A solitary plant, offsetting in maturity. Globular to cylindrical stems, pale green with a woolly, spiny crown, 2–4in tall, 2–3¼in thick. Close-set tubercles with whitish woolly areoles bearing 25–30 white radial spines ⅕–¼in long and one or two brown-tipped white centrals to ½in in length. Day flowering in mid-summer. Carmine red ⅔in long and ⅓in across, followed by red fruits containing brown seeds. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Puebla, Hidalgo).*

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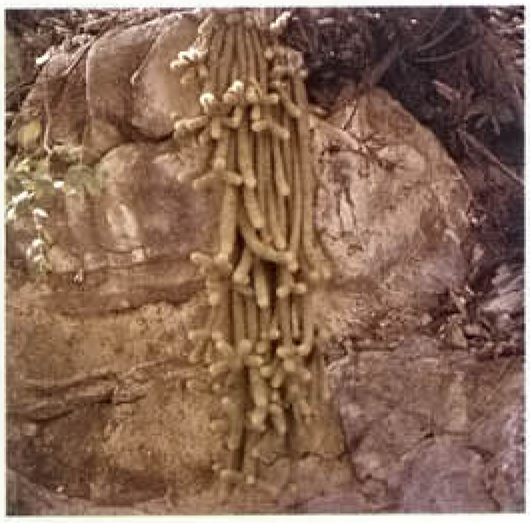

MAMMILLARIA **ELONGATA** DC.

One of the most variable species within the genus. A densely clustering plant, each stem is ½–1in thick and 2½–6in long, and considerably longer in its habitat. The areoles bear about 20 more or less yellow radial spines, although whitish, reddish, or brownish spines can occur. There may be one to three central spines or they may be absent. All are ⅓–½in long. Flowers are whitish to yellowish, about ⅔in long, and are diurnal in mid-summer. Best in a bright sunny position; normal cactus compost; kept completely dry autumn and winter; minimum temperature 50°F. *Mexico (Hidalgo).*

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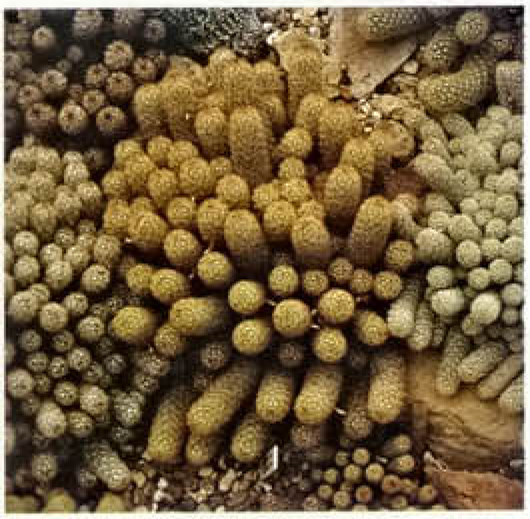

MAMMILLARIA **ELONGATA** DC.

The variously colored spine formations of this species provide very bright displays. The spines, which range from yellow to brown and are often yellow with differing colored tips, have given rise to a number of varietal titles within the species. Spines mostly number 15 to 20 from each areole. Bright light is most essential. *Mexico (Hidalgo, Queretaro).*

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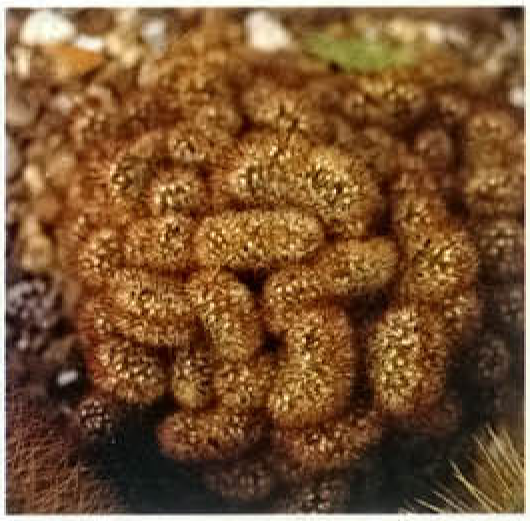
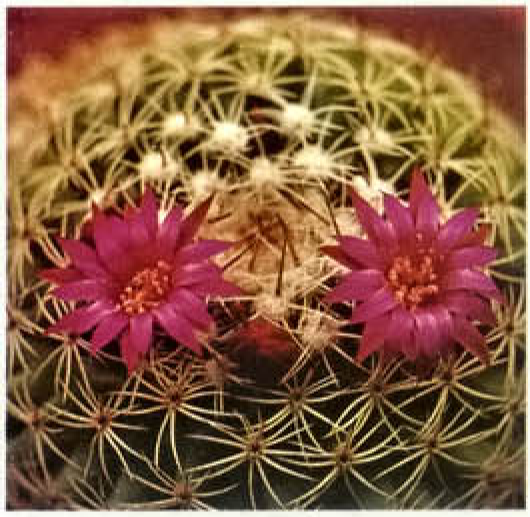


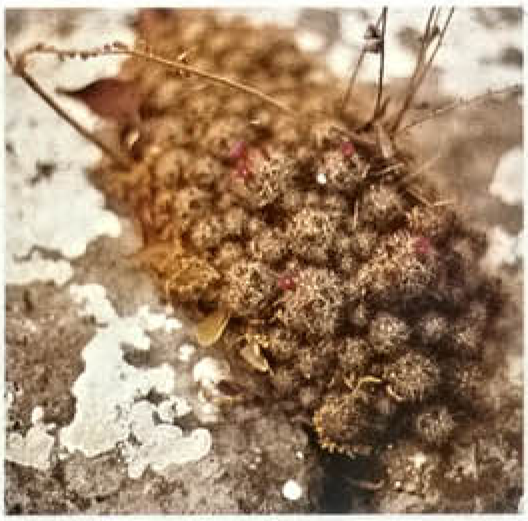
MAMMILLARIA **ELONGATA** DC. **fma. CRISTATA**

Very occasionally an abnormal growth develops. Unfortunately this gives no guarantee that further such growths will offset from it. Always provide a very bright position.



MAMMILLARIA **ERECTACANTHA** Förster

A globular, solitary species with a dark green body 3½–4¾in thick. The areoles are of white wool when young, bearing nine to fifteen yellowish-white, brown-tipped radial spines up to ¼in long and one brown, black-tipped central ¼–⅓in in length. A day flowering plant in mid-summer, it requires full sun; normal cactus compost; minimum temperature 55°F. *Mexico (Hidalgo etc.).*



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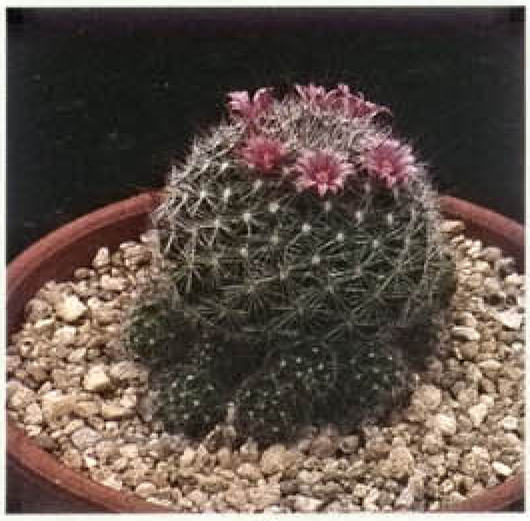

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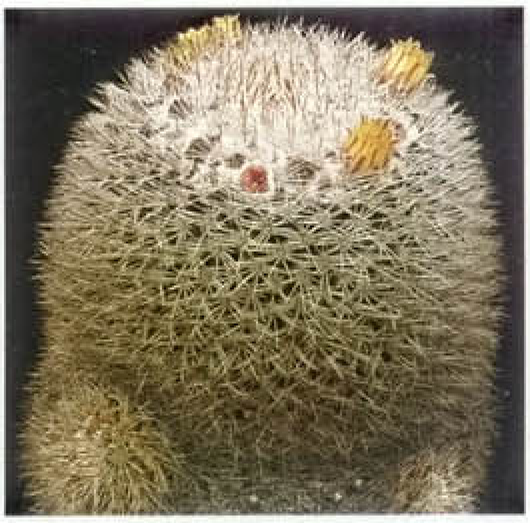
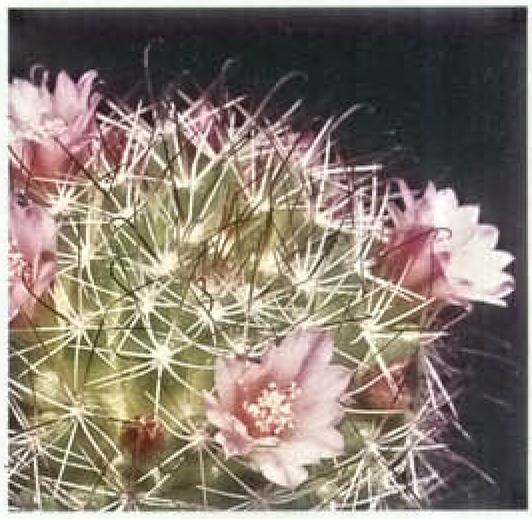
MAMMILLARIA **ERYTHROSPERMA** Böed.
Syn: *Mammillaria multiformis* (Br. & R.) Böed.

A clustering species of small globular or slightly elongating stems of dull green. The tubercles are cylindrical and the axils have no wool, but bristles only. Whitish areoles bear 15–20 white radial spines, yellowish at the base and ⅓–½in long, and one to three hooked yellow centrals with brown tips, about ½in in length. A summer flowering plant, the flowers are carmine with pinkish edges to the petals, ⅔in long and wide, and are diurnal. Requires a very bright position; normal cactus compost; minimum temperature 50°F. *Mexico (San Luis Potosi).*



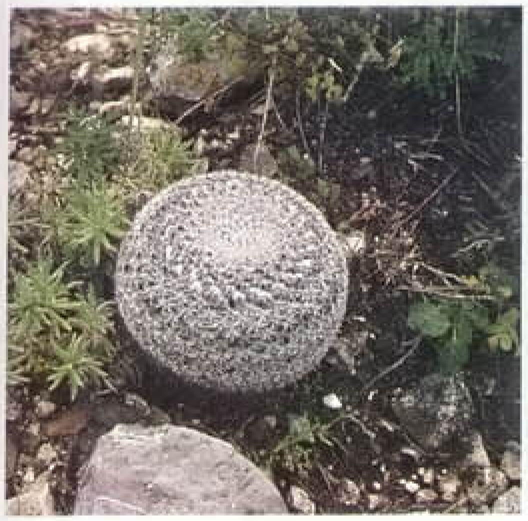
MAMMILLARIA **EVERMANNIANA** (Br. & R.) Orc.

A grayish-green, mostly solitary species, globular, and 2–3in in diameter. Any offsetting occurs from around the base. The tubercles are conical with whitish wool and bristles in the axils. Areoles carry 12–15 whitish, thin radial spines to ½in long and two to three centrals of similar length and color, all tipped with brown. Flowers are diurnal in summer. These are yellow with a reddish-purplish median line ½–⅔in long, ½in across. Requires full sun; normal cactus compost; minimum temperature 55°F. *Mexico (Cerralbo Island).*



MAMMILLARIA **FITTKAUI** Glass & Foster

A freely clustering plant, each pale-green stem is about 2in thick. The tubercles are conical and the axils are without wool or bristles. The whitish areoles have seven to nine white radial spines ¼–⅓in long, occasionally minutely brownish-tipped, and there are four brown central spines with a whitish base, three straight, one hooked. The flowers, day flowering in mid-summer, are white to pale pink with a deeper pinkish median line, and are ⅔in long, ½in across. Requires bright light; a permeable, enriched mineral compost; minimum temperature 55°F. *Mexico (Jalisco).*



MAMMILLARIA **FORMOSA** Galeoti ex Scheidw.

A dull-green globular to elongated plant, solitary at first but later offsetting, and up to 3¼in in diameter. It has short pyramidal tubercles and white woolly axils. The areoles bear 20–25 short, thin radial spines ⅒–⅕in long and four to six pinkish centrals with black tips, up to ⅕in. Summer flowering and diurnal, the flowers are about ⅔in long and wide, pinkish purple with pale pink edges. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (San Luis Potosi, Hidalgo).*

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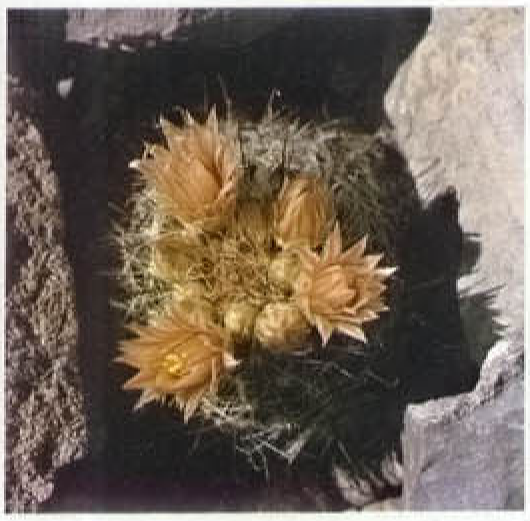

MAMMILLARIA **GARESSII** Cowper

Closely allied to *M. barbata* Engelm. A small clustering plant with each stem 1–3¼in high, 1–2in wide. There are 16–22 whitish-pink radial spines which usually have minute blackish dots, and are about ⅕–⅓in long, and one or two hooked central spines tipped pinkish orange, up to ⅔in in length. Flowers are white or pink with greenish outer segments, 1in long, ⅔in across, and are diurnal, appearing in summer. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Mexico (Chihuahua).*

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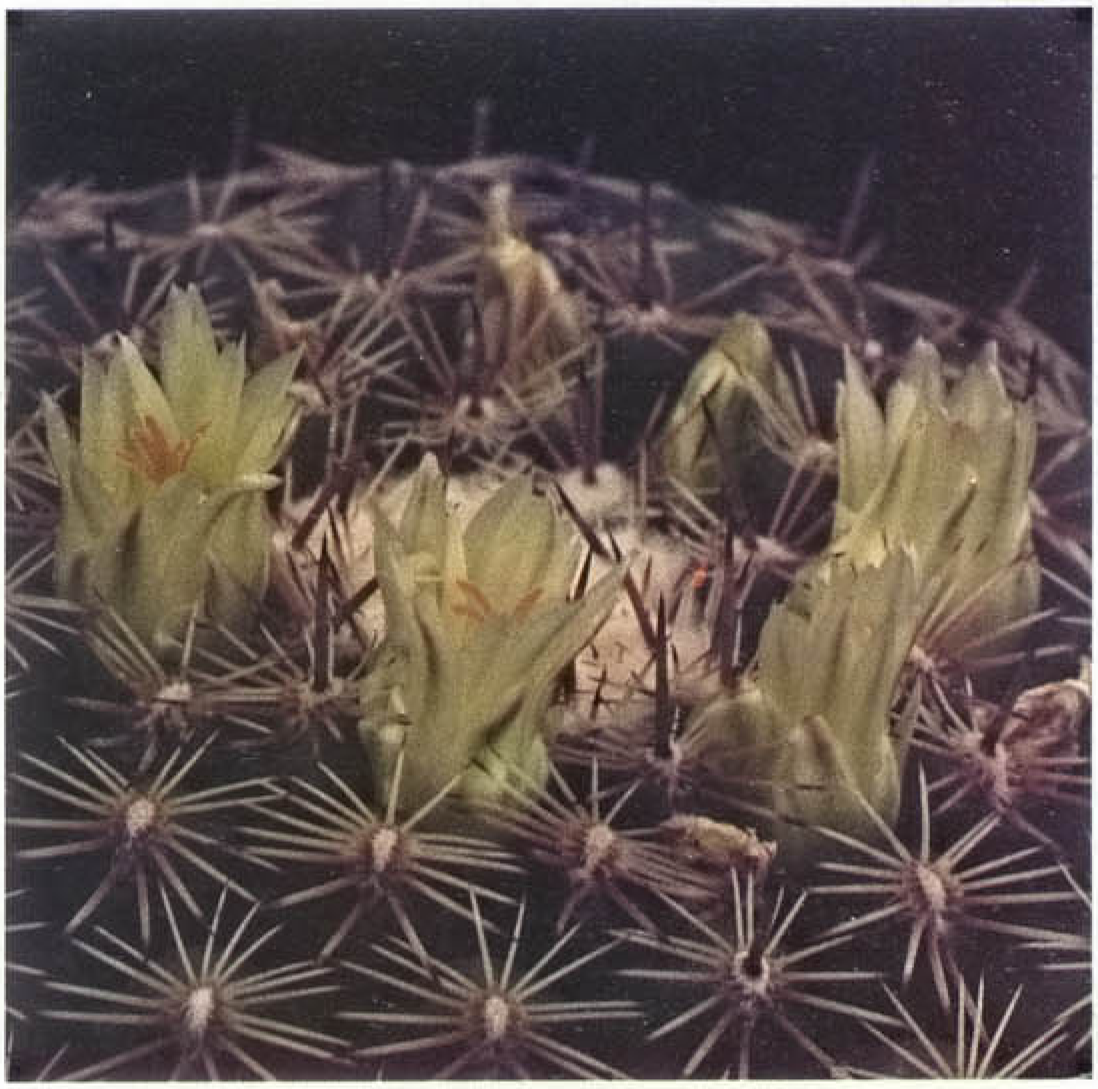

MAMMILLARIA **GAUMERI** (Br. & R.) Orc.

A dullish-green, globular or short-cylindrical plant, 4–4¾in tall. The tubercles are slightly angular, with bare axils, and the areoles carry 10–12 or more brownish-tipped, white radial spines ⅕–⅓in long, and one long brown central to ½in. Summer-flowering, and diurnal, the flowers are greenish white or pink, ½–⅔in long, ⅕–⅓in across. Needs good light, which is essential; normal cactus compost; minimum temperature 55°F. *Mexico (Yucatan).*

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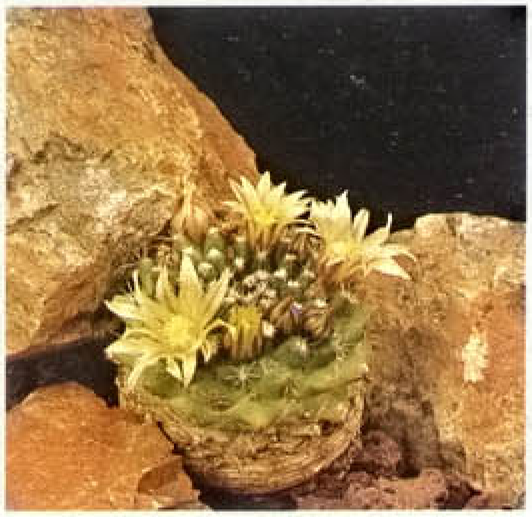

MAMMILLARIA **GLAREOSA** Böed
Syn: *Mammillaria dawsonii* (Houghton) Craig

A round plant with a flattened top, 1½–2½in in diameter, and dark green. The tubercles are prominently four-angled, the axils slightly woolly, and the areoles bear nine to ten whitish or brownish radial spines up to ¼in long, with one brown central of similar length. Flowers are a pale greenish yellow with a reddish-brown median line on the outer petals, each ½–⅔in long and across. They bloom by day in summer. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Baja).*

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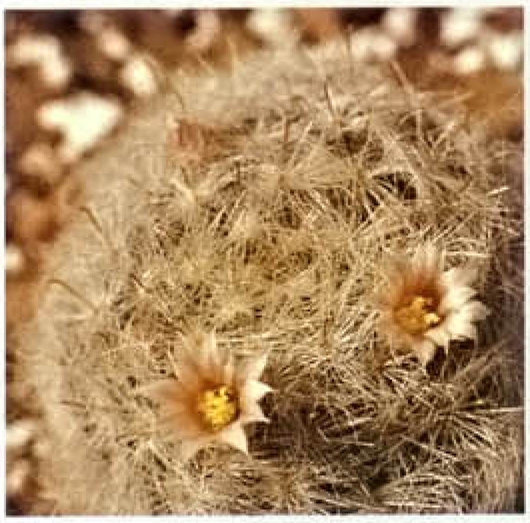
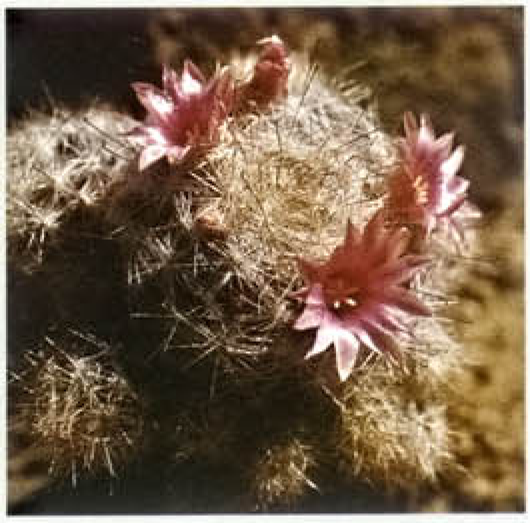


MAMMILLARIA **GLASSII** R. Foster

Small globular plants which form clusters. Each head scarcely exceeds ¾–1in in diameter, and there are many whitish, hair-like bristles proceeding from the axils, which with the spines densely cover the whole plant. The areoles carry 50–60 white, hairy radial spines up to ⅔in long and six to eight smaller sub-centrals with one slightly hooked brown central. Flowers are a very pale pink, ⅔in long, to ⅕in across, appearing by day in summer. Requires partial shade; a permeable, enriched mineral compost; minimum temperature 55°F. *Mexico (Nuevo Leon).*

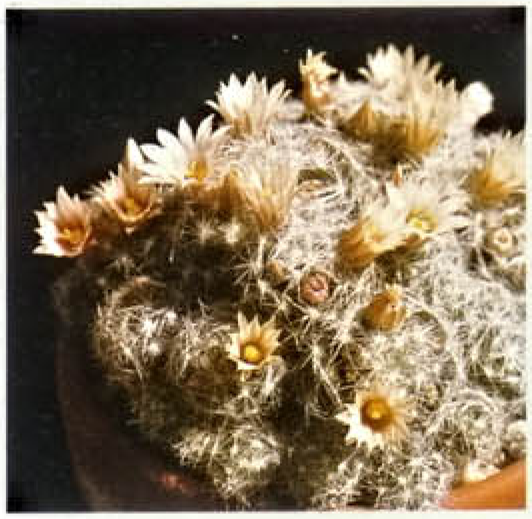


MAMMILLARIA **GLASSII var. NOMINIS-DULCIS** Lau

A newly introduced variety of the species with whitish radial spines and brownish-purple centrals. The flowers are a deep purplish red with darker center stripe, about ⅔in long, slightly longer across. Requirements are the same as for the species. *Mexico (Nuevo Leon).*

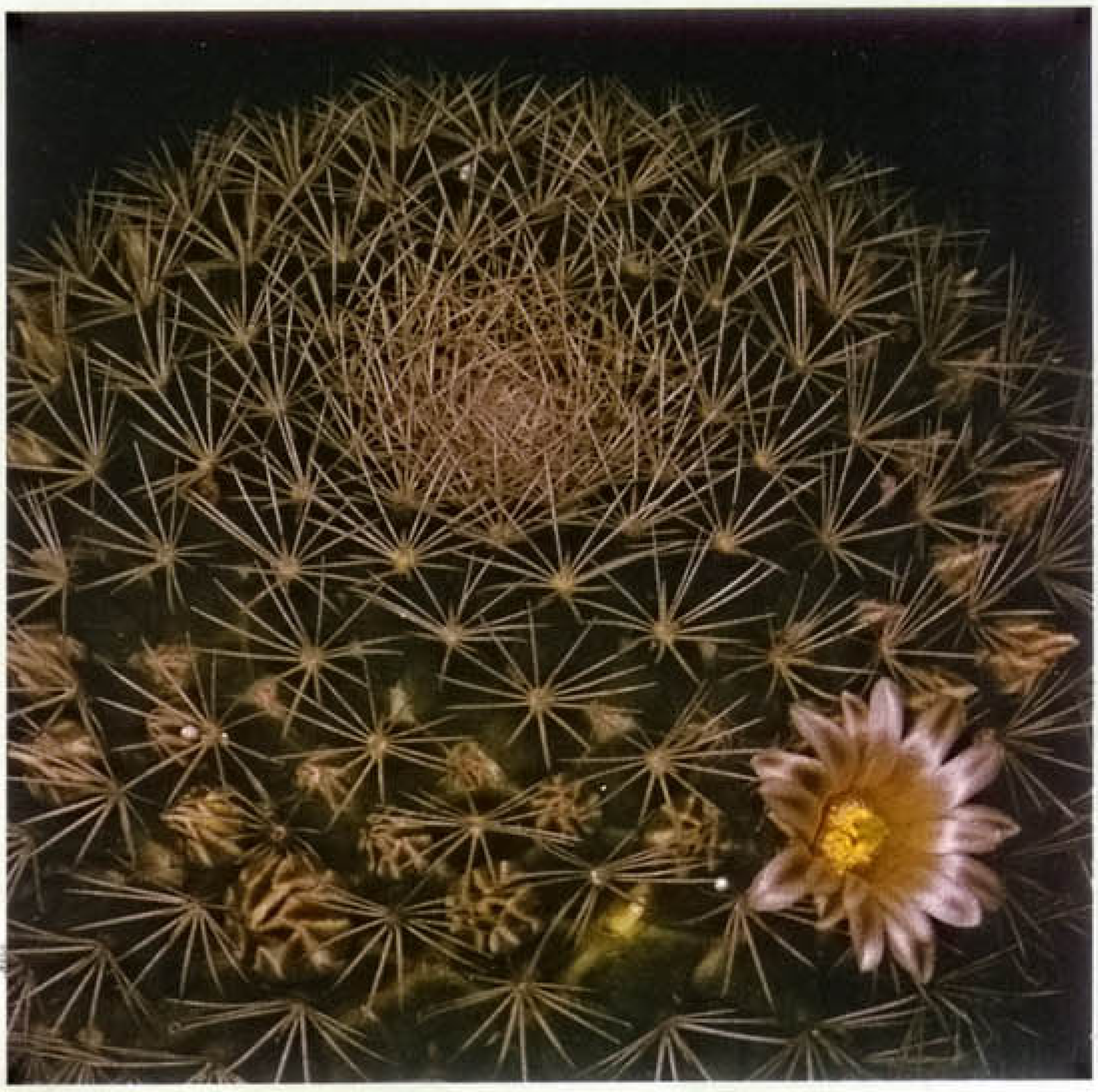
MAMMILLARIA **GRUSONII** Rünge

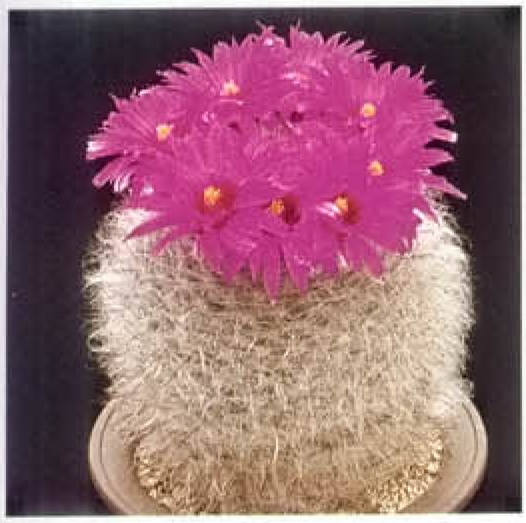
A large globular plant up to about 10in in diameter. Dull greenish in color, it has four-angled tubercles and axils which are woolly at first, this quickly dispersing. The areoles carry about 14 straight, reddish-brown radial spines which become white with age, ¼–⅓in long, and two to three similar centrals of equal length. Flowering in summer, the blooms are diurnal, pale yellow or pinkish with a deeper pinkish median stripe, about 1in long and across. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Coahuila).*



MAMMILLARIA **GLASSII var. ASCENSIONIS** (Reppenhagen) Glass & Foster
Syn: *Mammillaria ascensionis* Reppenhagen

Small globular plants ¾–1in in diameter, forming quite large clusters. In most respects it is similar to the species, but the whitish to pale pink flowers are decidedly larger. Requirements are the same as for the species. *Mexico (Nuevo Leon).*





MAMMILLARIA **GUELZOWIANA** Werd.
Syn: *Krainzia guelzowiana* (Werd.) Backeb.

A choice globular species, clustering with age. Each head is about 3in tall, 2½in thick, and there is no wool or bristles in the axils. Radial spines are white, very fine and hair-like, 60–80 to an areole and about ⅔in long. There are one to three reddish or yellowish centrals, often hooked, and ½–⅔in long. Flowers are diurnal in summer, very large – up to 2in long, 2½in across, and brilliant carmine pink. Requires very careful, almost meager watering; full sun; normal cactus compost; minimum temperature 55°F. *Mexico (Durango).*

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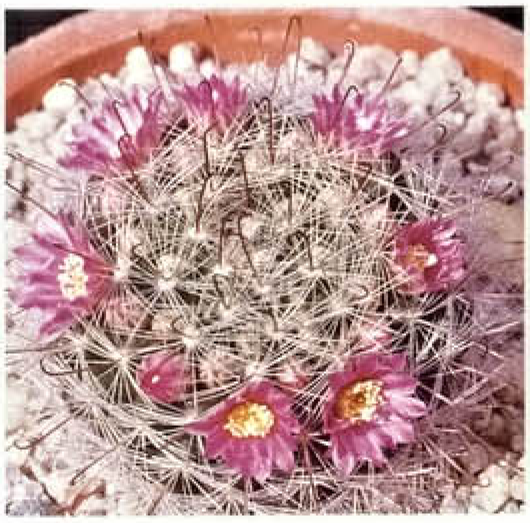

MAMMILLARIA **GUILLAUMINIANA** Backeb.

A globular species up to 2¼in high, 1–2in in diameter, and clustering freely. The stems are dark or dull greenish with conical tubercles, and bare axils. Areoles bear 30 or more white radial spines ¼–⅓in long, and four to five centrals of similar length, one of which is hooked, with a reddish-brownish tip. Day flowering in summer, the flowers are about ½in long and wide, with pink inner petals, and white outer petals with a deep pinkish median line. Requires bright light; normal cactus compost; minimum temperature 55°F. *Mexico (Durango).*

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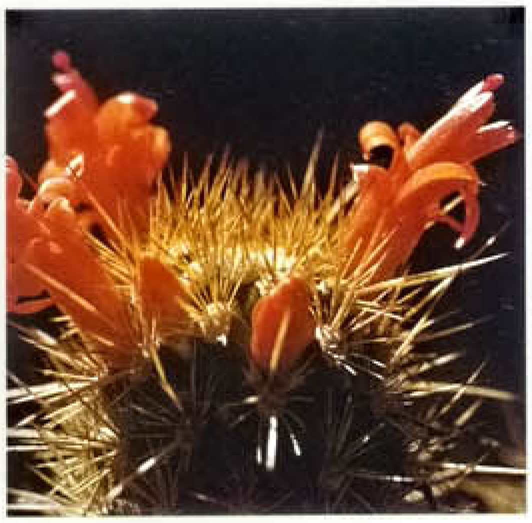

MAMMILLARIA **HALEI** K. Brandegee
Syn: *Cochemiea halei* (K. Brandegee) Walt.

The stems are 1–1½ft tall, 2–3in thick, and form clusters. The tubercles are short with woolly axils and the areoles bear 10–20 pale-brownish radial spines up to ⅔in long and three to four centrals to 1⅓in which are always straight. Flowers appear in early to mid-summer, and are diurnal; rich scarlet, they are 1–2in long. Needs full sun; normal cactus compost; minimum temperature 55°F. *Mexico (Baja, Magdalena Isl.).*

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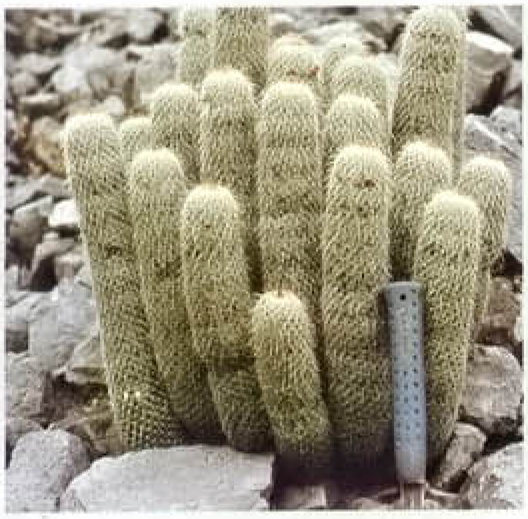

MAMMILLARIA **GUERRERONIS** (Bravo) Böed.

Stems are cylindrical, quickly forming clusters. They are 1ft 3in–2ft tall in habitat, and about 2½in in diameter, dull grayish green with conical tubercles and white woolly axils with 15–20 bristles. There are 20–30 white or pinkish radial spines up to ½in long, and four brown-tipped centrals to ⅔in in length, occasionally hooked. Flowers are red; they are diurnal, appearing in summer. Requires full sun; normal cactus compost; minimum temperature 55°F. *Mexico (Guerrero).*

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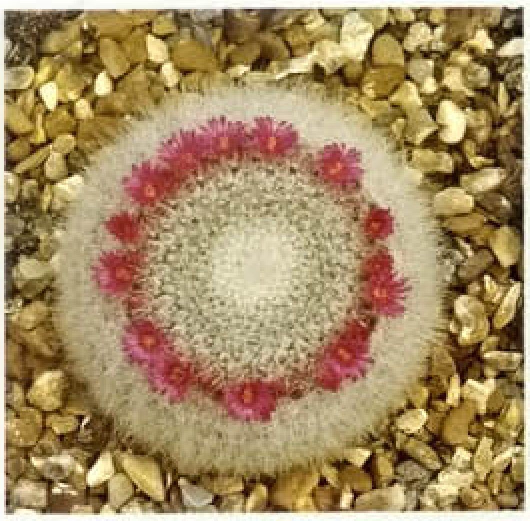

MAMMILLARIA **HAHNIANA** Werd.

Green globular plants which become group-forming, 3½–8in high, 4–4¾in thick, coated completely with long white hairs, spines, and bristles. There are conical tubercles and white bristly axils, and the areoles bear 20–30 white, hair-like radial spines up to ⅔in long and one to three or more white centrals with often darker tips, to ⅓in in length. The flowers are carmine red, ⅔–¾in long and wide, and are diurnal, appearing in summer. Requires full sun; normal cactus compost with lime added; minimum temperature 50°F. *Mexico (Queretaro, Guanajuato).*

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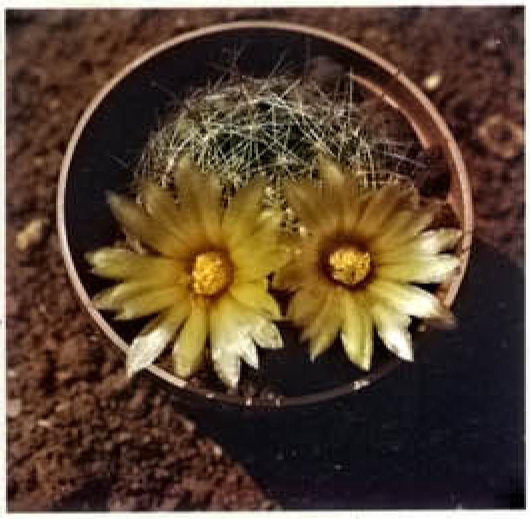

MAMMILLARIA **HEIDIAE** Krainz

Small globular plants about 1in high, 2¼in wide, soon clustering. The tubercles are cylindrical with axils having one to five white bristles ½in long. There are about 16–24 white radial spines about ½in long and one or two centrals which are slightly longer and hooked, and are yellow with brown tips. Flowers occur in summer, and are diurnal; they are yellowish green and up to 1¼in long, 1in in diameter. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Puebla).*

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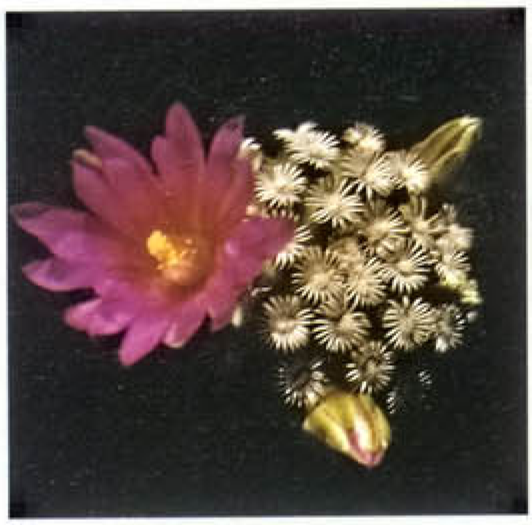

MAMMILLARIA **HERNANDEZII** Glass & Foster

A small, somewhat globose plant 1–1¾in in diameter. The pyramidal-shaped tubercles are arranged spirally around the stems, and have woolly axils. Areoles bear 17–25 white radial spines 1/16–1/10in long. Flowering in summer, the plant is diurnal, with cerise to pale magenta blooms about ¾in long and wide. Requires bright light; normal cactus compost; minimum temperature 55°F. *Mexico (Oaxaca).*

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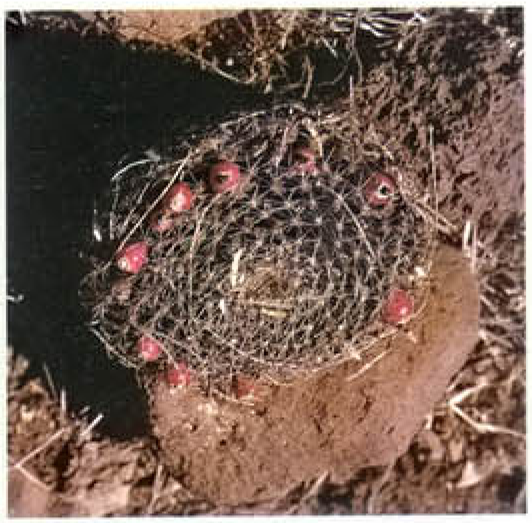

MAMMILLARIA **HEYDERI** Mühlpf.

Dull green and mostly solitary, this is a more or less globular plant with stems 4in high, 3¼–4in wide. The tubercles are small and pyramid-shaped with woolly axils when young. There are 15–22 white radial spines with brown tips, very bristly and ⅕–⅓in long, and one brown central about ¼in in length. Day flowering in summer, the flowers are about ¾in long, creamy white; red fruits. Requires sun; normal cactus compost; minimum temperature 50°F. *USA (Texas), Mexico (Northern areas).*

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MAMMILLARIA **HUMBOLDTII** Ehrenb.

A solitary, rarely clustering species with more or less globular stems about 2in in diameter. The tubercles are very small with bristly, woolly axils. Areoles have up to 80 or even more white radial spines, ⅕–¼in long, but no centrals. Summer flowering, it is diurnal; the flowers are purplish red, about ⅔in long and wide. Careful watering is essential. Requires full sun; normal cactus compost with a little lime added; minimum temperature 55°F. *Mexico (Hidalgo).*

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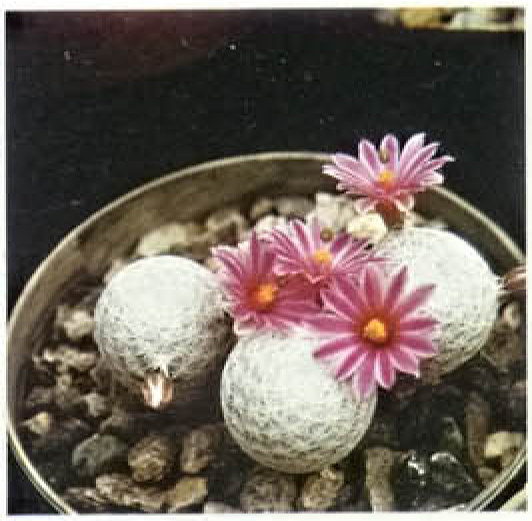

MAMMILLARIA **HERRERAE** Werd.

The plants are solitary or clustering, globular, and ¾–1in thick. The small tubercles are densely covered with numerous white or pale-gray radial spines about 1/16in long: there are more than 100 to each small areole. Day flowering in summer, the flowers are pale pink to reddish violet, ¾–1in long, and up to 1in in diameter. Careful watering is essential. Requires full sun; a porous enriched cactus compost; minimum temperature 55°F. *Mexico (San Luis Potosi, Queretaro).*

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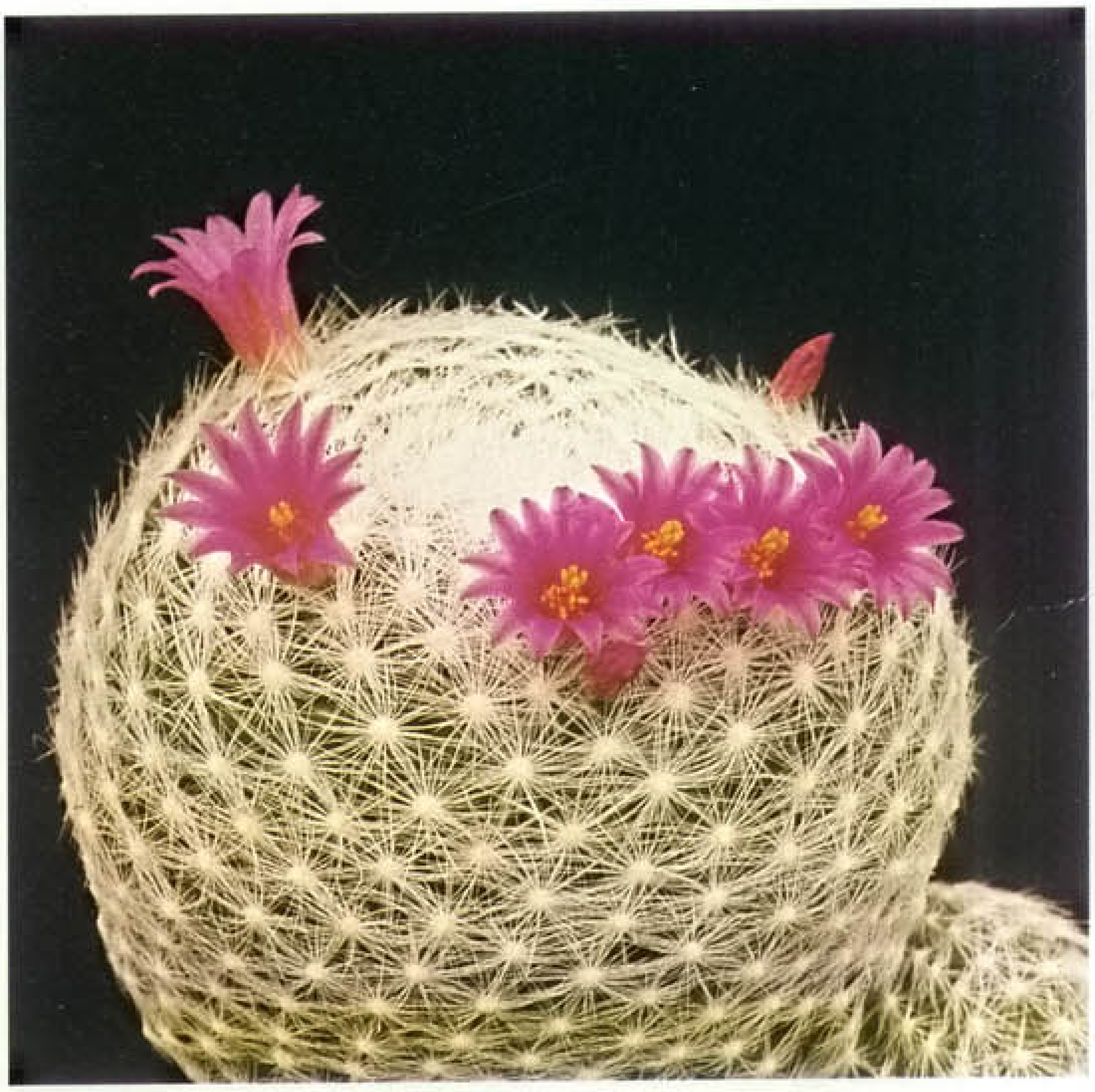
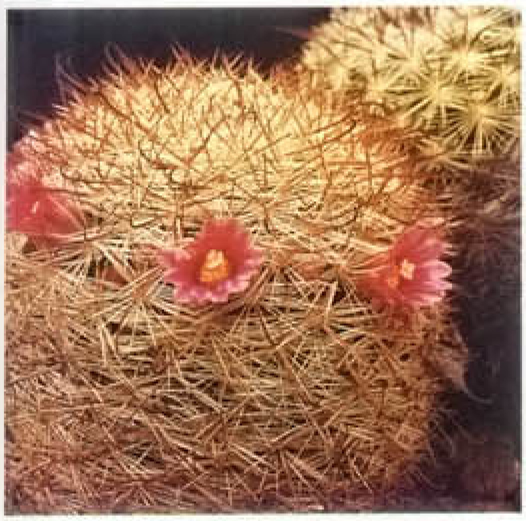
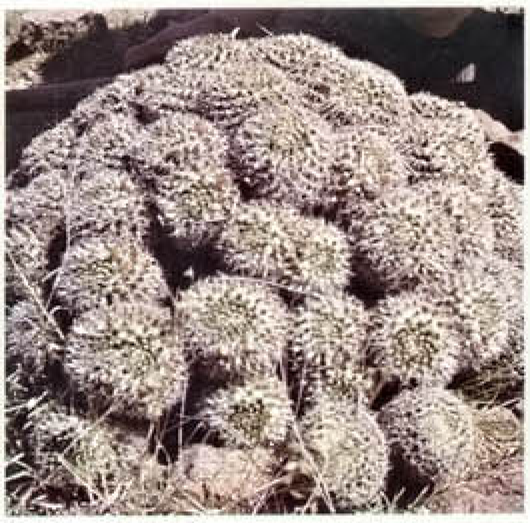




MAMMILLARIA **JALISCANA** (Br. & R.) Böed.

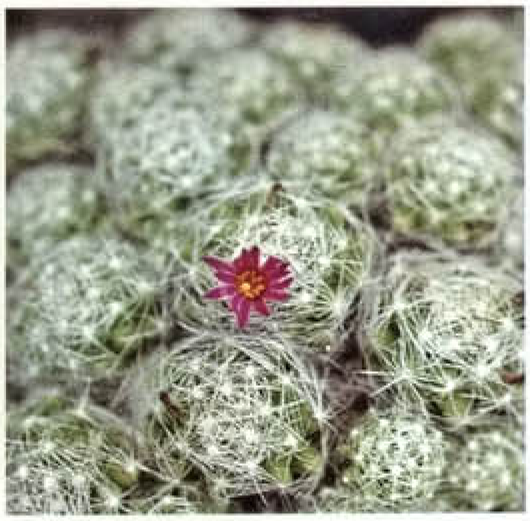
A choice globular species 2–2½in in diameter and dull green in color with cylindrical tubercles and bare axils. The areoles have about 30 white radial spines about ⅓in long and four to eight reddish-brown, sometimes almost black centrals up to ⅖in in length, the lowest being hooked. Flowers are pink to pale purple, about ½in in diameter, and are fragrant. These are diurnal, appearing in summer. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Guadalajara).*



MAMMILLARIA **KARWINSKIANA** Mart.

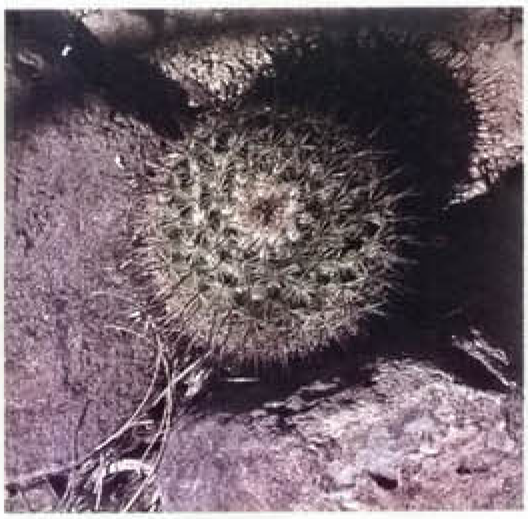
Syn: *Mammillaria confusa* (Br. & R.) Orc.; *Mammillaria nejapensis* Craig & Dawson

More or less round or semi-cylindrical plants which cluster from the base, each head being 3–3½in in diameter. Tubercles are pyramidal with wool and bristles in the axils. Spines are brownish to grayish, made up of three to six radials and occasionally one central. Flowers are white with a red median line, ¾in long, ⅔in across, and appear by day in summer. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Oaxaca).*



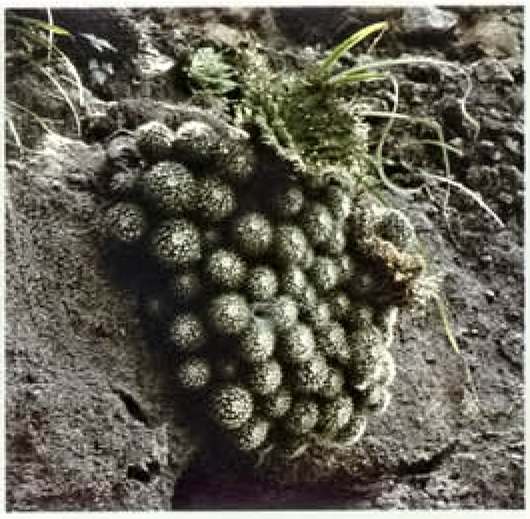
MAMMILLARIA **KRAEHENBUEHLII** Krainz

A clustering species with somewhat rounded individual stems about 1–4¾in long, 1⅓in wide. The tubercles are rather angular, and the axils are without bristles or wool. It has 18–24 whitish radial spines with brown tips, 1/10–⅓in long, usually one central of similar coloring and slightly longer. Flowers, which are carmine red, about ⅔in long, are day flowering in summer. Requires very slight shade; normal cactus compost with lime added; minimum temperature 55°F. *Mexico (Oaxaca).*



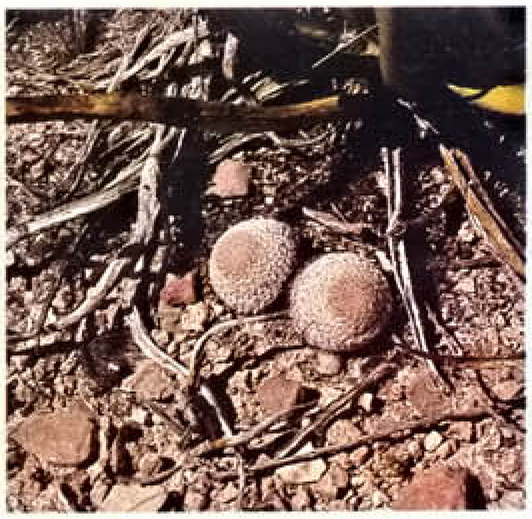
MAMMILLARIA **JOHNSTONII** Br. & R.

Bluish-green, globular plants about 4¾in in diameter, and 8in high. Tubercles are four-edged, the axils bare. The areoles bear 10–16 or more brown-tipped white radial spines ¼–⅖in long and two or more dark-brown or blackish central spines ½–1in in length. Flowers are diurnal, occurring in mid-summer, and are about ¾in long and across, white and pale yellowish with a dark median stripe on the outer petals. Requires bright light; normal cactus compost with a little lime added; minimum temperature 50°F. *Mexico (Sonora, San Carlos Bay).*



MAMMILLARIA **KNIPPELIANA** Quehl.

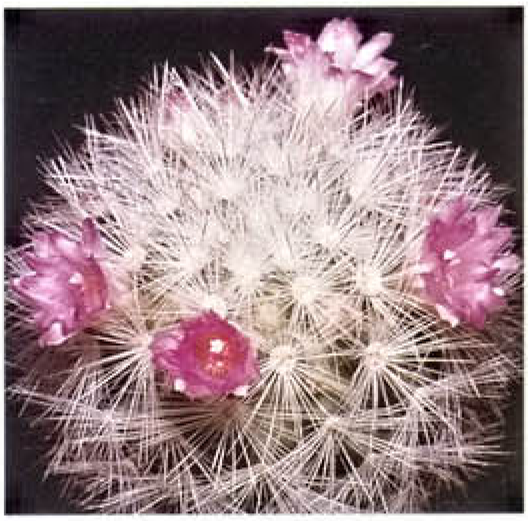
A solitary, globular plant, very rarely clustering. The stems are 2–3in tall to 2in wide with white wool and bristles in the axils. There are four to six white spines with red-brown tips, all radials, and up to 1in long. Flowering in summer, it is diurnal; the blooms are yellowish, with reddish tips and markings to the petals and about ⅔in long, ½in wide. Needs bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Morelos).*



MAMMILLARIA **LASIACANTHA** Englm.

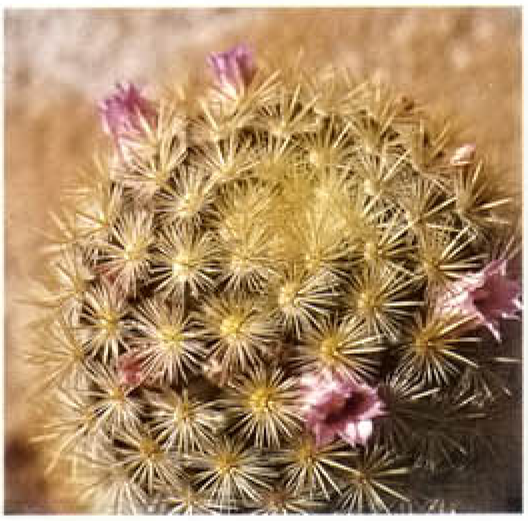
Syn: *Mammillaria lasiacantha* var. *denudata* Engelm.

A miniature plant with a gray-green globular stem about 1½in in diameter, and covered with soft spines. Tubercles are very small with bare axils. The areoles bear 40–80 hair-like spines in several rows, each 1/10in long. Flowers are white with a distinctive red center stripe to the petals, and about ½in long; they are day flowering, in summer. Requires sun; normal cactus compost plus lime; minimum temperature 50°F. *Mexico (Northern States), USA (Texas).*



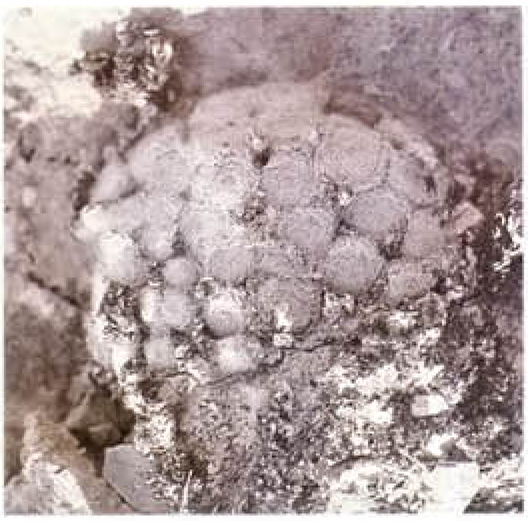
MAMMILLARIA **LAUI** D. R. Hunt

A comparatively recent introduction discovered by Alfred Lau. It is a variable species with roundish stems 1½–2in high and in diameter, frequently clustering, especially in its habitat. The varying forms are suitably named: fma. *laui* has slightly woolly axils, and areoles bearing numerous white, bristle-like radial and central spines, with the centrals usually brown-tipped. Flowers are pinkish purple, about ½in across, and appear by day, in summer. A high-altitude form requiring sun; normal cactus compost; minimum temperature 55°F. *Mexico (Tamaulipas).*



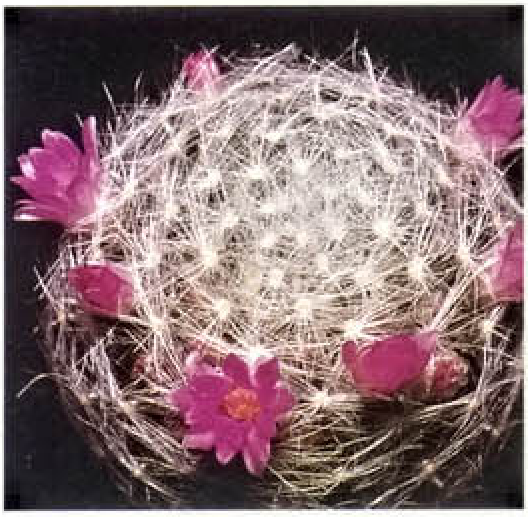
MAMMILLARIA **LAUI** D. R. Hunt **fma. SUBDUCTA**

This is in most respects similar to fma. *laui*, but it comes from lower altitudes up to about 2,624ft. The spines are yellowish or brown and ⅓–½in in length, but not as numerous as that described. Flowers, rather bell-shaped, are a slightly paler pinkish purple of similar size. Requirements are the same as for the species.



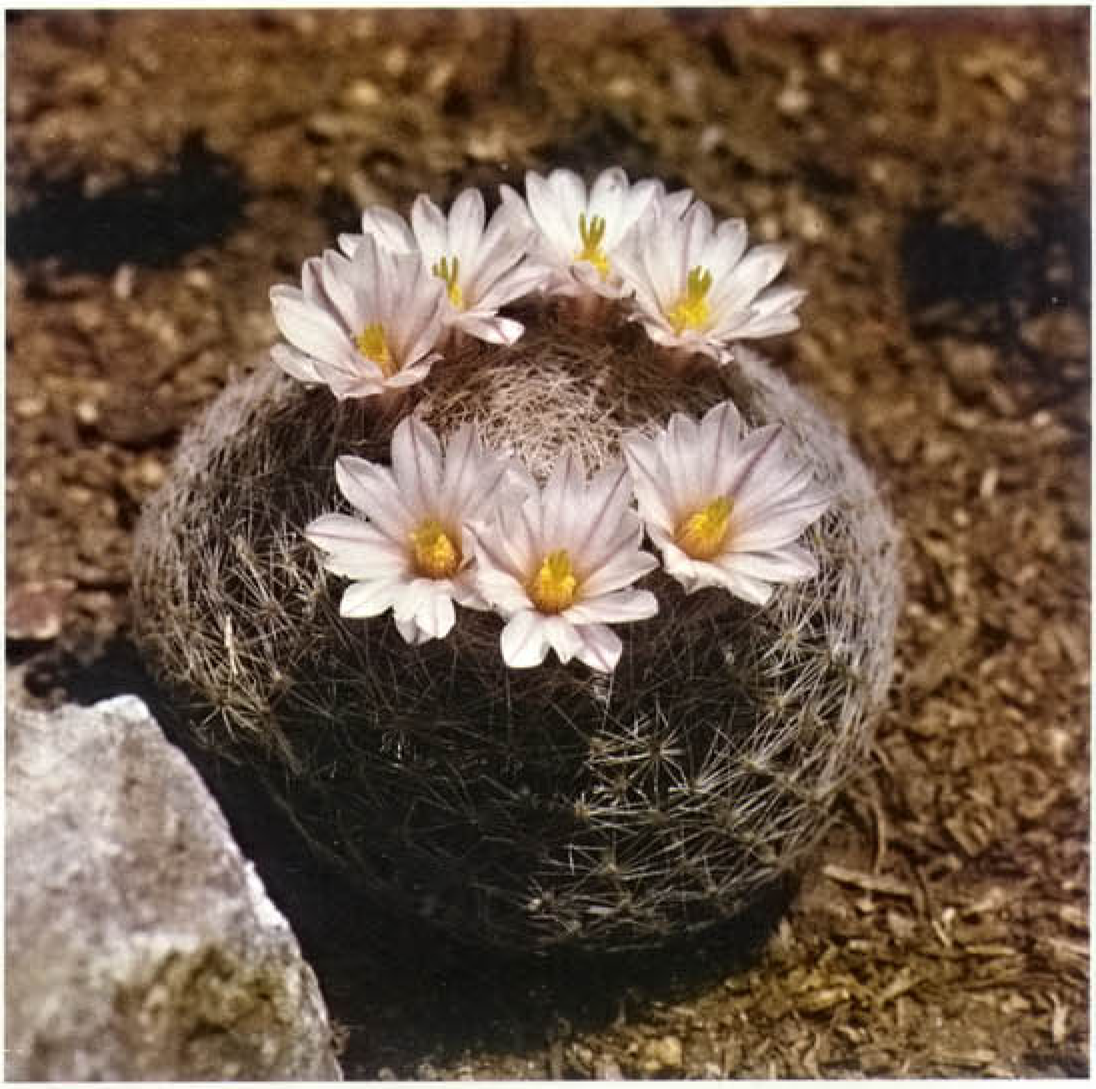
MAMMILLARIA **LENTA** Brandegee

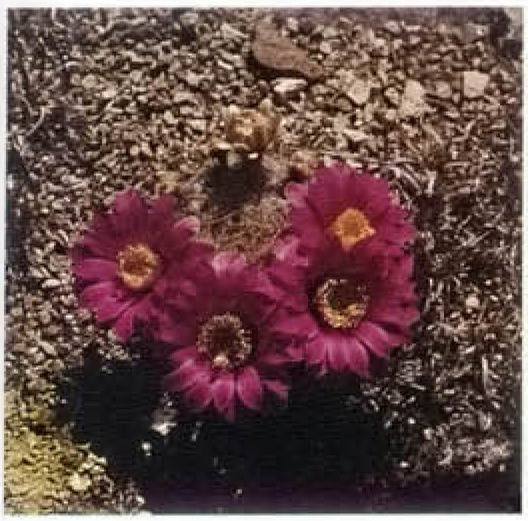
A small globular plant, sometimes clustering. Each stem is ½–¾in high, 2½–3in across, with slender tubercles, conical to ⅓in long, and axils with short wool and often one bristle. Areoles bear 30–40 clear white to pale-yellowish radial spines ⅒–⅓in long, but no centrals. The flowers are white with a pale-purple median line to the petals and about ¾in long, 1in across: they are day flowering, in summer. Requires bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Coahuila).*



MAMMILLARIA **LAUI** D. R. Hunt **fma. DASYACANTHA**

A very high-altitude plant to 5,577ft. It has fine, hair-like white spines ¼–⅖in long, the radials and centrals intermingling to form a complete covering to the plant. Flowers are almost magenta. Requirements are the same as for the species.

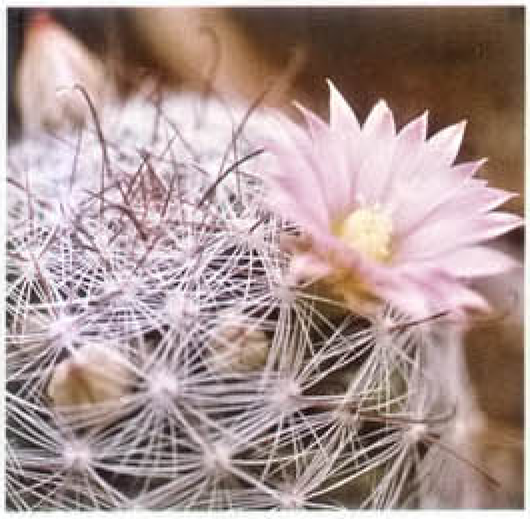




MAMMILLARIA **LONGIFLORA** (Br. & R.) Berger

Syn: *Krainzia longiflora* (Br. & R.) Backeb.

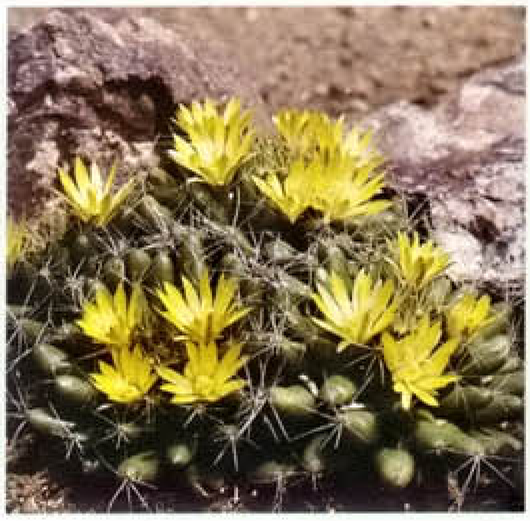
A globular, clustering species. Each stem is about 3¼–3½in in diameter, dark green, with long tubercles and slightly felted axils. Radial spines are white or pale yellow, ½in long, and there are four yellowish or brown centrals of similar length, one of which is hooked. Day flowering in summer, the flowers are in shades of pink with a deeper shade center line, and up to 1¾in long, 1½in across. Requires careful watering; sun; normal cactus compost; minimum temperature 50°F. *Mexico (Durango).*



MAMMILLARIA **LONGIFLORA fma. STAMPFERI** (Reppenhagen) D. R. Hunt

Syn: *Mammillaria stampferi* Reppenhagen

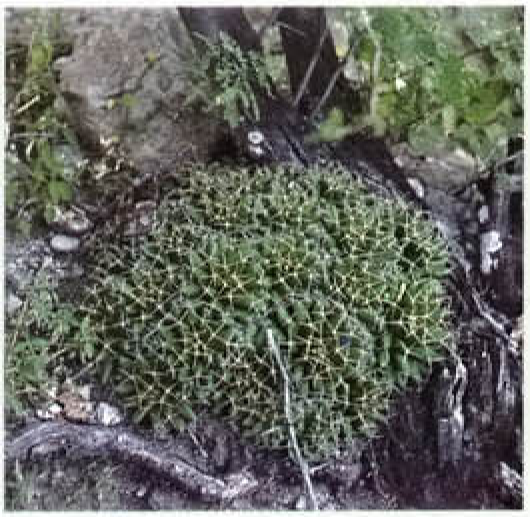
A high-altitude variant from the same locality. It is similar to the species but has larger tubercles and shorter central spines. The flowers are a soft pale pink and appear by day in summer. Requirements are the same as for the species.



MAMMILLARIA **LONGIMAMMA** DC.

Syn: *Dolichothele longimamma* (DC.) Br. & R.

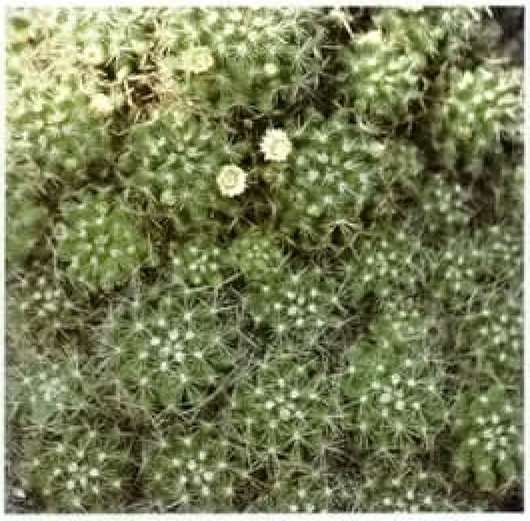
Plants are globular, solitary or clustering, bright green. Each stem is 4in or more in diameter and the tubercles are long, from 1–3in, with slightly felted or bare axils. Areoles have nine to ten fine, white to pale-yellowish radial spines ½–⅔in long and occasionally a single pale-brown central up to 1in in length. Flowers are bright yellow, up to 2½in long and across, in early summer, and are diurnal. Requires good light; normal cactus compost; minimum temperature 50°F. *Mexico (Hidalgo).*



MAMMILLARIA **LONGIMAMMA var. UBERIFORMIS** (Zucc.) D. R. Hunt

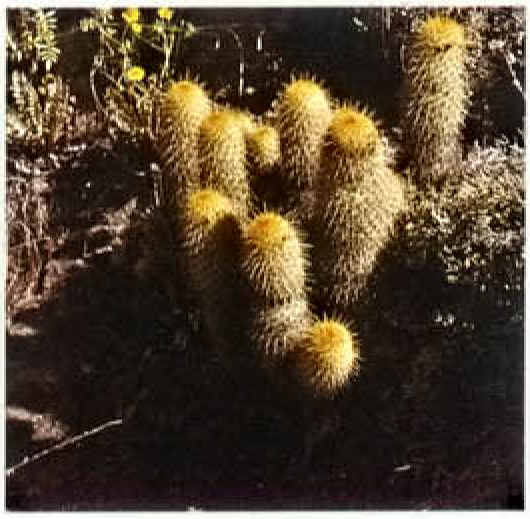
Syn: *Dolichothele uberiformis* (Zucc.) Br. & R.

Similar to the species, but a smaller plant. The tubercles are 1⅓in long and there are fewer spines, three to six radials up to ⅔in long, and no centrals. Flowers are similar to those of the species, about 1⅓in across, and cultivation requirements are the same. *Mexico (Hidalgo).*



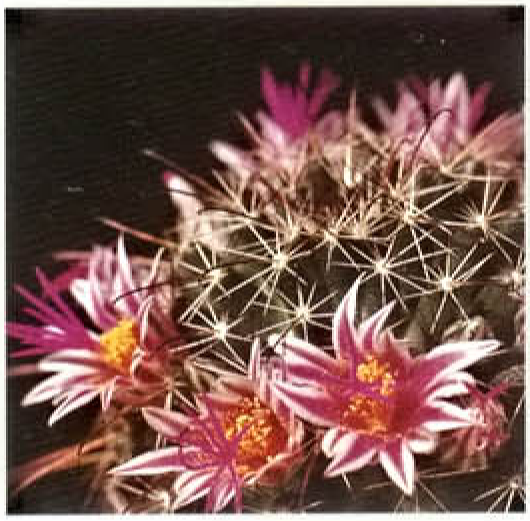
MAMMILLARIA **MAGNETICOLA** Meyran

Very closely resembles *M. vetula* Mart. It is a small globular, clustering species, about 1½in in diameter, bright green with blunt conical tubercles. Spines are white: 25–30 radials at first, later increasing to 50, and there are four to seven centrals, often more brownish. Flowers are diurnal, and pale yellowish, about ⅔in across, appearing in summer. Requires bright light; normal cactus compost; minimum temperature 45°F. *Mexico (Hidalgo).*



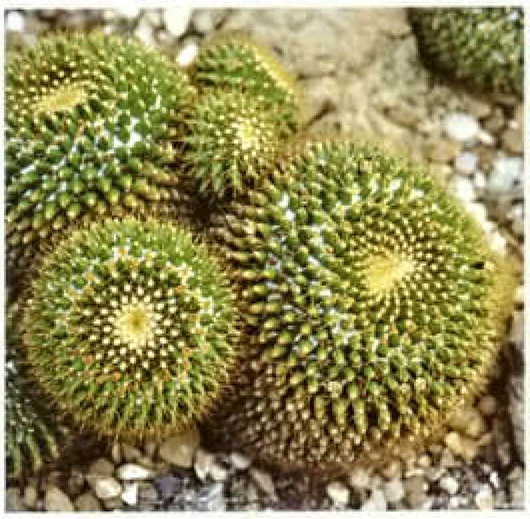
MAMMILLARIA **MAGNIFICA** Buchenau

A globular, becoming elongated, species which clusters from the base. The grayish-green stems are often 8in–1ft 3in tall, 3–3½in diameter. Axils have white wool and 8–15 bristles and the spines vary in color: there are 18–24 white to yellowish radials, ⅒–⅓in long and four to eight bright yellowish-brown centrals, the lower one hooked and 1⅓–2⅓in long. Flowers appear by day, in summer, and are reddish purple, ¾in long, ½in across. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Puebla).*



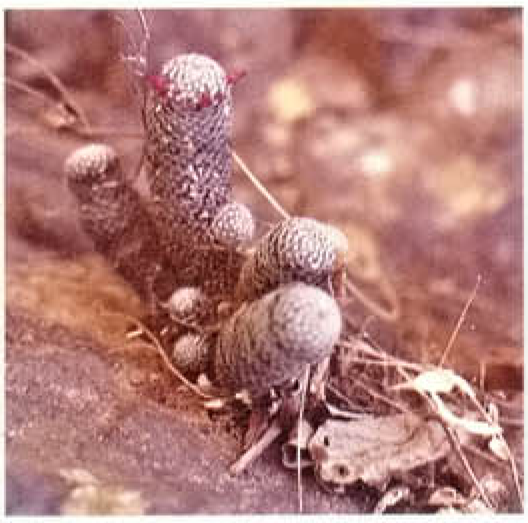
MAMMILLARIA **MAINIAE** Brandegee

Usually a clustering plant, sometimes solitary, globular, or slightly elongated to 4in high. Tubercles are conical, the axils bare. The areoles have 10–15 yellowish, brown-tipped, radial spines ¼–½in long and one to three centrals, brown with a darker tip, one of which is hooked and up to ⅔in long. Flowers are white with a wide red center stripe; they are ¾in long, 1in across, and are diurnal, appearing in summer. Requires slight shade; normal cactus compost; minimum temperature 45°F. *Mexico (Sonora).*



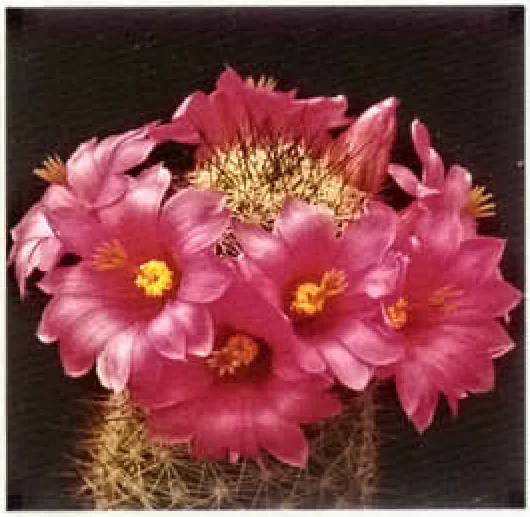
MAMMILLARIA **MARKSIANA** Krainz

A globular plant, generally solitary, but occasionally offsetting. Stems are 2in high, 3¼in thick, and covered with four-angled pyramidal tubercles. The areoles are of yellow wool, more so towards the top, and have eight to ten yellowish radial spines ⅕–⅓in long, and one central ⅓in in length. Flowering in summer, the plant is diurnal and the flowers yellow or greenish yellow, up to ⅔in long and across. Requires good light; normal cactus compost; minimum temperature 50°F. *Mexico (Sinaloa).*



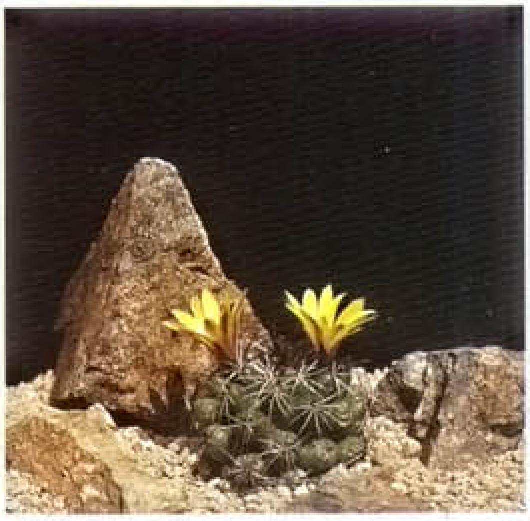
MAMMILLARIA **MATUDA** Bravo

The plants are solitary or clustering, each head slightly cylindrical up to 8in or more high, and 1in thick. The tubercles are conical with bare axils and there are 18–20 white radial spines with a yellowish base, ⅒in long, and one pinkish-white central with a reddish tip, ⅕in in length. Summer flowering by day, the flowers are purplish brown, about ⅔in long, the inner petals more pale reddish. Requires bright light; normal cactus compost; minimum temperature 55°F. *Mexico (Guerrero, Mexico State).*



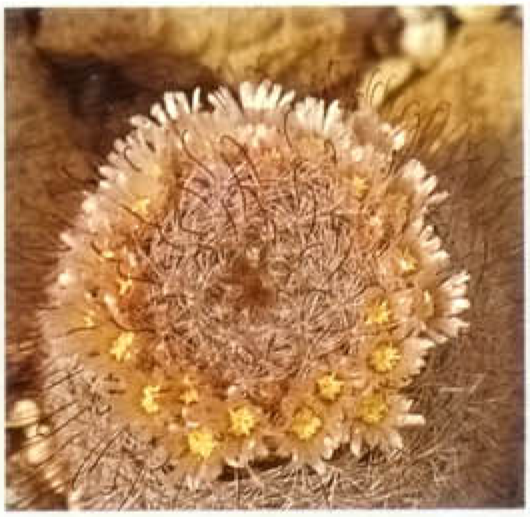
MAMMILLARIA **MAZATLANENSIS** (Rebut) K. Sch. & Gürke

Principally clustering plants, each grayish-green stem is about 4¾in high, 1½in thick. The tubercles are rather cone-shaped, and the axils have one or two short bristles. Areoles carry 12–13 thin, white radial spines to ½in long and three or four reddish-brown centrals up to ⅔in in length. The bright carmine-red flowers occur in summer, and are diurnal, and about 1½in long. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Mexico (Mazatlan in Sinaloa).*



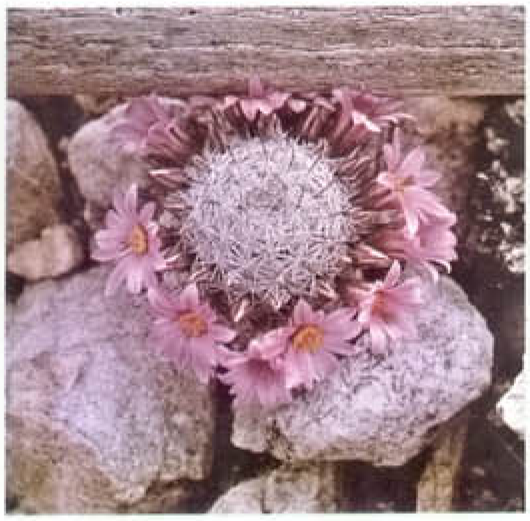
MAMMILLARIA **MELALEUCA** Karw. ex Salm-Dyck
Syn: *Dolichothele melaleuca* (Karw.) Craig

A globose species 3¼–4in wide, occasionally offsetting to form clusters. Tubercles are conical to cylindrical and about ½in long, ⅓in thick with bare axils, and there are six to nine radial spines up to ⅔in long, the upper ones brown, the lower ones white, and one brown central of similar length, often absent. Flowering diurnally in mid-summer, the bright yellow blooms are ¾–1in long and across. Requires sun; normal cactus compost; minimum temperature 55°F. *Mexico (Tamaulipas).*



MAMMILLARIA **MERCADENSIS** Patoni

Dull grayish-green globular plants, offsetting from the base. Each head is about 2in thick with more or less cone-shaped tubercles and bare axils. Areoles bear 25–30 white radial spines ⅕–⅓in in length and four to seven reddish centrals ⅔–1in long. Day flowering in early summer, the pale-pink flowers are ⅔–¾in long and wide. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Durango).*

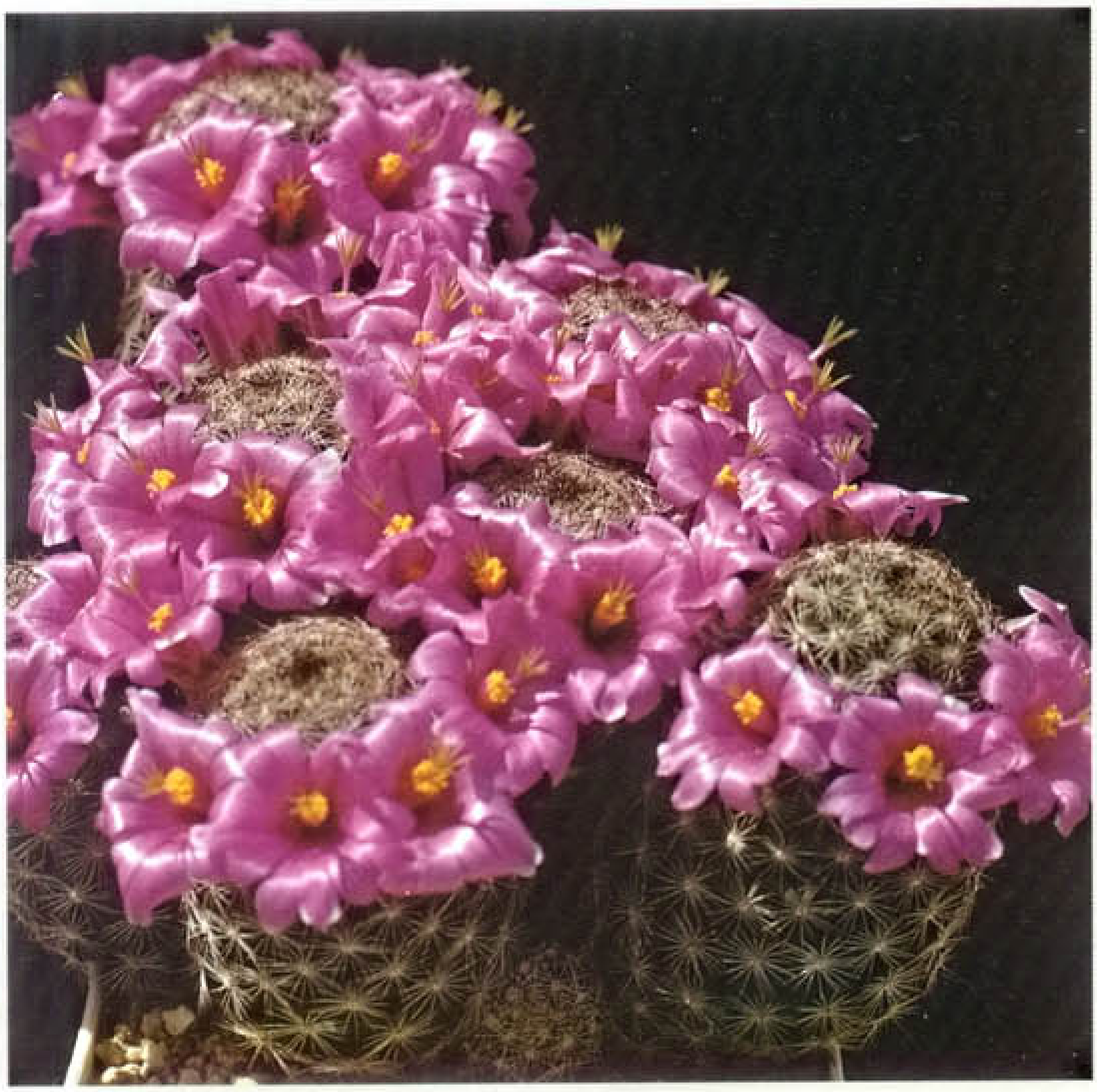


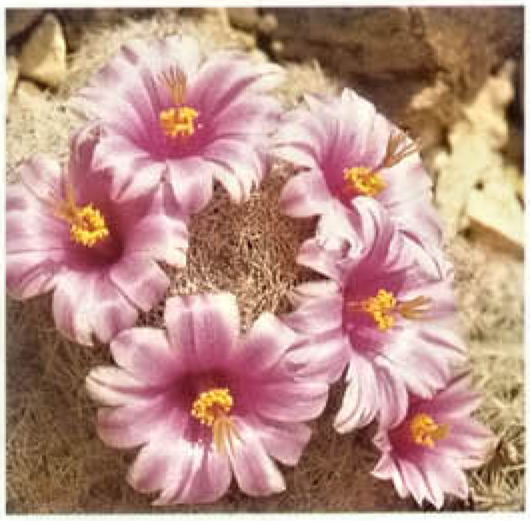
MAMMILLARIA **MICROCARPA** Engelm.

The pale-green plants are cylindrical to 6in high, 1⅓–1¾in wide, and usually clustering, with conical tubercles and bare axils. The areoles carry 18–30 whitish radial spines up to ⅔in long and one to three reddish-brown, almost black centrals up to ¾in in length, one of which is hooked. Summer flowering, and diurnal, the flowers are rose pink, about 1in long and across. Requires full sun; normal cactus compost with a little lime added; minimum temperature 50°F. *Mexico (Sonora, Chihuahua), USA (Arizona).*

MAMMILLARIA **MICROCARPA var. GRAHAMII** (Engelm.) L. Benson
Syn: *Mammillaria grahamii* Engelm.

A globular plant, only rarely offsetting. It is dark green, 2–4in high, 1¾–4¼in thick, with small cone-shaped tubercles and bare axils. Spines are pale brownish or whitish, of which 20–35 are radials ¼–⅓in in length and two to four are centrals, one of which is hooked, ⅔–1in long; these are mostly brownish-tipped. Flowers, diurnal in summer, are pale pink, rarely white, and up to 1in across. Requirements are the same as for the species. *Mexico (Sonora, Chihuahua), USA (Arizona).*



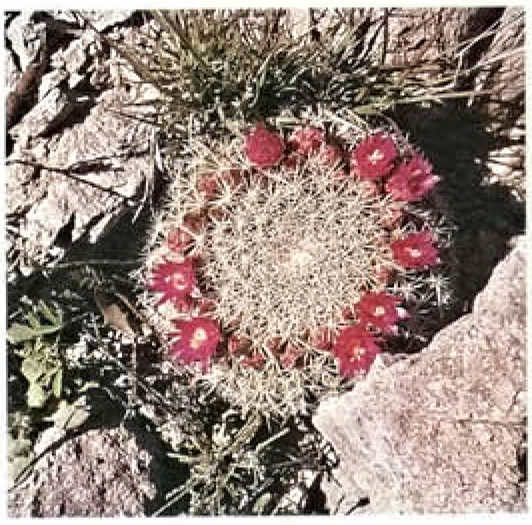


MAMMILLARIA **MICROCARPA var. OLIVIAE** (Orc.) L. Benson
Syn: *Mammillaria oliviae* Orc.

Very similar to the species, readily clustering, but spines are generally paler, the centrals shorter. The pinkish purple flowers have paler edges to the petals, but the coloring can, however, be variable. Requirements are the same as for the species. *Mexico (Sonora), USA (Arizona).*

MAMMILLARIA **MICROTHELE** Mühlpf.

Backeberg gives the habitat as Oaxaca, Mexico. A small grayish-green, clustering species with tubercles about ⅓in long. Spines are white, densely covering the whole body of the plant, made up of 22–24 radials, ⅒in long, and two centrals 1⁄16in in length. It is summer flowering, and diurnal; the blooms are white, and up to ⅔in long. Needs sun; slightly calcareous cactus compost; minimum temperature 50°F. *Mexico (East San Luis Potosi).*



MAMMILLARIA **MIEGEANA** W. H. Earle

A usually solitary species 3¼–4in in diameter, and a dull dark green. The tubercles are closely set, with bare axils except in the crown. Areoles bear 10–11 slightly curved, grayish-white radial spines ⅖in long, and two, rarely three, brown straight centrals ⅓in in length. Summer flowering, and diurnal, the flowers are pinkish red or an even deeper shade, particularly towards the center of the petals; they are about ¾in long and often slightly more across. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Sonora).*

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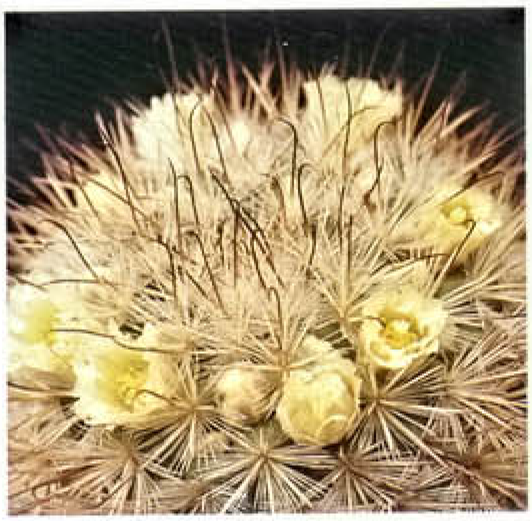

MAMMILLARIA **MOELLERIANA** Böed.

A bright-green globular plant, usually solitary, about 2½in in diameter with somewhat ovoid tubercles and bare axils. Areoles bear 35–40 whitish radial spines ⅓–⅖in long and eight to ten centrals ¾in or more long, the lower two hooked; these are reddish brown, yellowish near the base. Flowering in early to mid-summer, the blooms are diurnal, ⅔in long and broad, and creamy yellow with a deeper yellow median stripe, or pale pink with a deeper center line. Requires bright sunshine; normal cactus compost; minimum temperature 50°F. *Mexico (Durango).*

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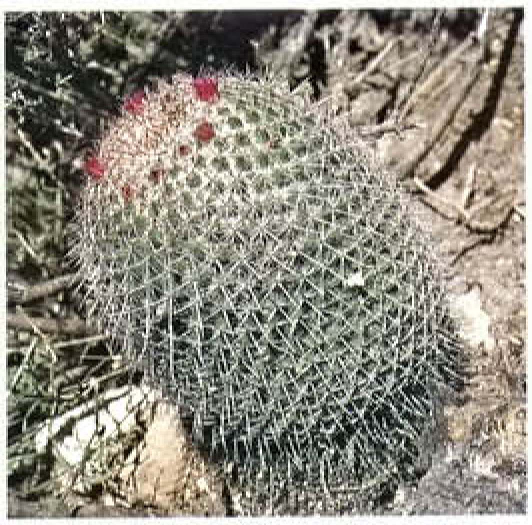

MAMMILLARIA **MOLLENDORFFIANA** Shurly

A more or less solitary plant, globular becoming elongated to 1ft high, 3–3¼in thick. The tubercles are cylindrical, the axils woolly and bristly. Areoles have 24–28 white radial spines up to ⅕in long and four to six pale-brownish centrals with darker tips, up to ⅔in in length. Flowers are about ½in long, ⅓in across, and are purplish red, appearing by day in mid-summer. Requires bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Hidalgo).*

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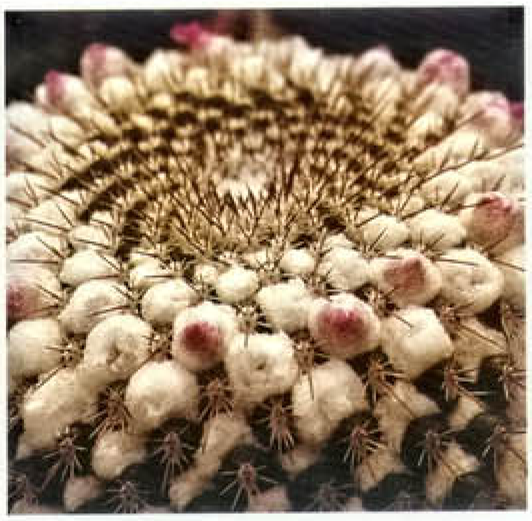

MAMMILLARIA **MOVENSIS** Craig

A grayish-green, somewhat globular species up to about 2in high, 4in in diameter with conical tubercles and dense whitish-wool axils. Areoles bear 10–13 more or less pale-brownish radial spines ⅒–⅔in long and one to four more reddish-brown centrals ⅕–¾in in length. Flowers are purplish pink, appearing in summer, and are diurnal. Needs good light; normal cactus compost; minimum temperature 50°F. *Mexico (Movas).*

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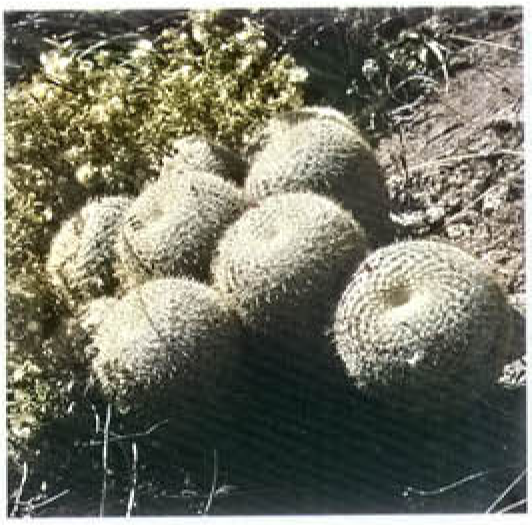

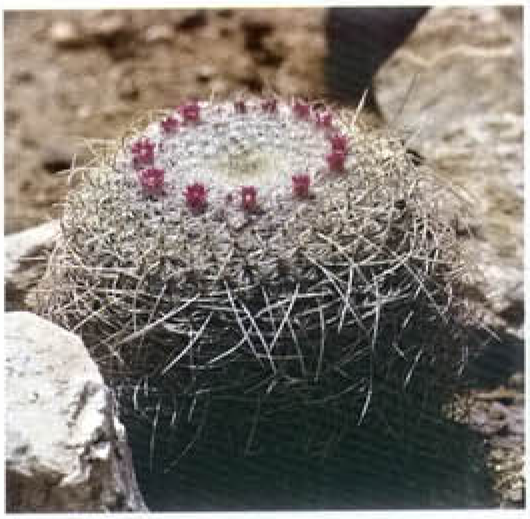

MAMMILLARIA **MUEHLENPFORDTII** Först.
Syn: *Mammillaria neopotisina* Craig

A globular, clustering species. Each head is up to 4in high, 3¼in wide, and is dark green, with pyramidal-shaped tubercles and white, woolly and bristly axils. The areoles are white and woolly, with 40–50 white radial spines ¾–2½in long and four yellowish centrals varying from ⅕–1⅓in in length. Flowering is in mid-summer; the small deep-pink flowers are diurnal and ½–⅔in long, ½in wide. Requires full sun; normal cactus compost; minimum temperature 55°F. *Mexico (Queretaro, San Luis Potosi).*

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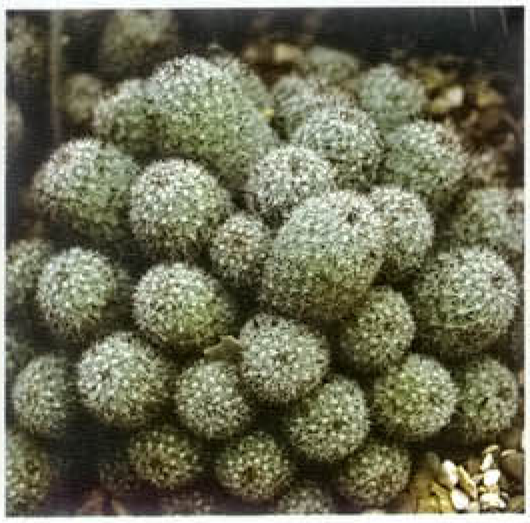
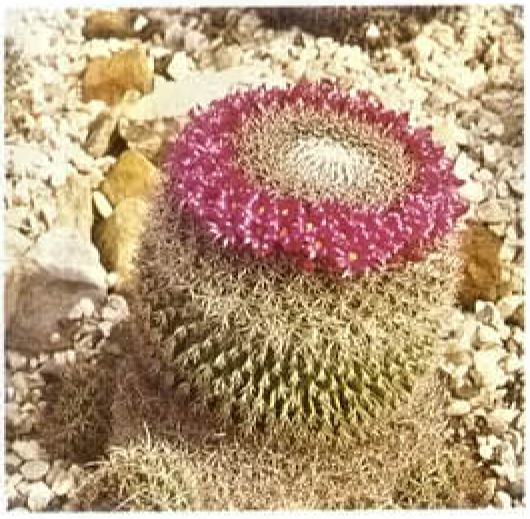


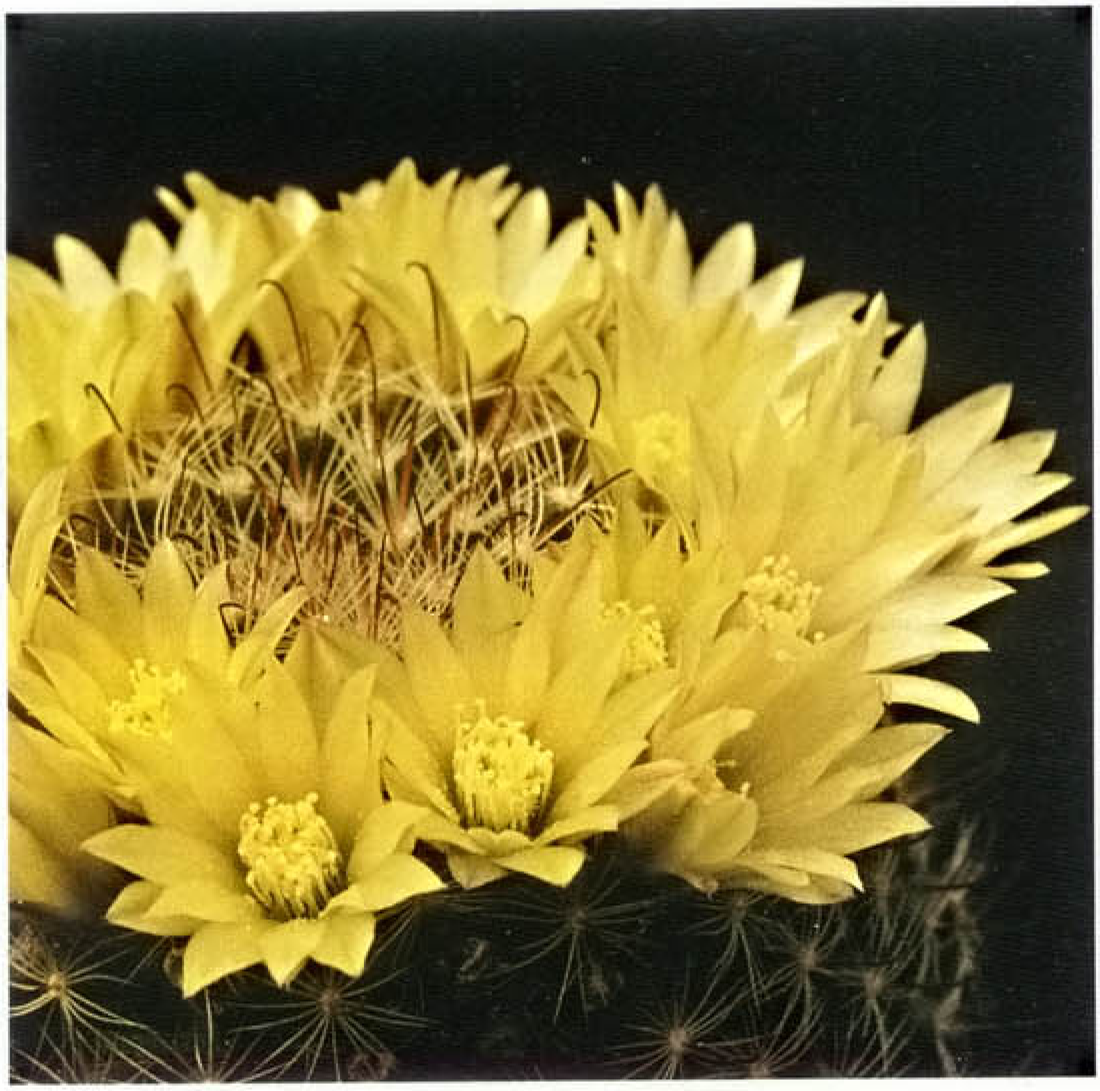
MAMMILLARIA **MULTIDIGITATA** Radley ex Lindsay

A clump-forming species with stems often to 8in long, ¾–2in thick. The tubercles are conical and the axils slightly woolly. Areoles bear 15–25 white radial spines ¼–⅓in long and usually four white, brown-tipped centrals, up to ⅓in in length. Day flowering in summer, the flowers are white with a greenish midstripe on the outer petals, and up to ⅔in long and across. Needs bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Baja).*



MAMMILLARIA **MYSTAX** Mart.

Plants are solitary or clustering. The grayish-green stems are 6in high, 4in in diameter, with four-edged tubercles and white wool and bristles in the axils. Areoles bear five to six or more white, brown-tipped, radial spines ⅕–⅓in long and three to four purplish, becoming gray, centrals mostly ⅔–¾in long, but one up to 3in in length. The plants are day flowering in summer, with 1in long, ¾in across, purplish-pink blooms, often with paler inner petals. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Hidalgo, Oaxaca).*



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MAMMILLARIA **NANA** Backeb.

Fresh-green, solitary plants about ⅔in high, 1in in diameter. The tubercles are cylindrical, and the axils have wool and bristles. The whitish areoles bear about 35 white radial spines and one or two brownish centrals up to ⅕in long. Flowers appear in early to mid-summer; these are creamy white or pale yellow, ⅔in wide, about ½in long, and are diurnal. Requires full sun; normal cactus compost with a little lime added; minimum temperature 50°F. *Mexico (San Luis Potosi).*

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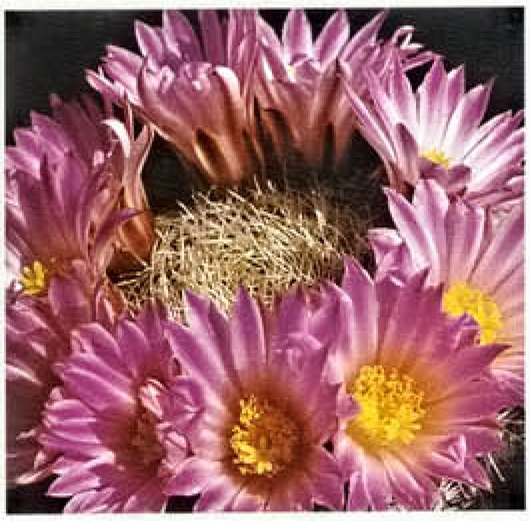

MAMMILLARIA **NAPINA** Purp.

A globular or clustering species, each head is about 2in in diameter and darkish green, with cone-shaped tubercles and slightly woolly or bare axils. There are 10–12 whitish or pale-yellow spines ⅓–⅔in long, all radiating; there are no centrals. Flowering in summer, it is diurnal, with rose-pink to pale carmine flowers, the inner petals slightly paler, and up to 1½in across. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Puebla near Tehuacan).*

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MAMMILLARIA **NEJAPENSIS** Craig & Dawson

Considered by some authorities to be synonymous with *M. karwinskiana*. A branching plant with individual stems 6in high, 3in thick. It has conical tubercles and dense woolly and bristly axils. All the spines are radial, whitish with brown tips, and three to five in number, ⅒–⅕in long with often one much longer to about 2in. Day flowering, in summer, flowers are a dull white with a reddish median line to the petals, about ¾in long, ⅔in across. Requires a sunny position; normal cactus compost; minimum temperature 55°F. *Mexico (Oaxaca).*

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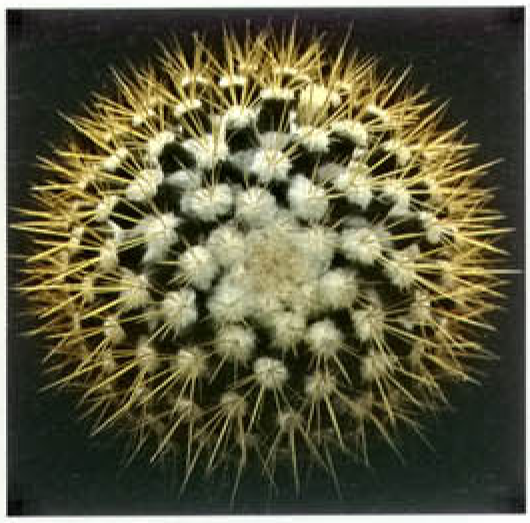

MAMMILLARIA **NIVOSA** Link
Syn: *Mammillaria flavescens* (DC.) Haw.

Generally globular with stems up to 7in in diameter in its habitat, but cultivated plants are 2½–3¼in thick. Tubercles are cone-shaped with white woolly axils. Areoles are white and often densely woolly, bearing eight to ten yellow to brownish radial spines – sometimes up to 14, and to ⅔in long, with one slightly longer central to ¾in. Flowers are diurnal, occurring in early to mid-summer; they are creamy yellow and up to ¾in long. Requires a bright sunny position; normal cactus compost; minimum temperature 55°F. *West Indies.*

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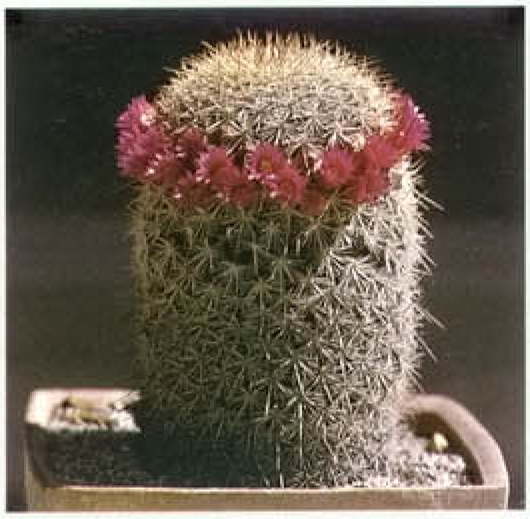

MAMMILLARIA **NUNEZII** (Br. & R.) Orc.

A globular to cylindrical-shaped plant up to 6in high, 2½–3¼in thick, and dull greenish in color. The tubercles are cone-shaped, and there are bristles in the axils. There are 25–30 white radial spines ⅓in long, and one to five slightly longer reddish-tipped centrals. Flowers are purplish pink, about ⅔in long and across, and appear by day in summer. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Guerrero).*

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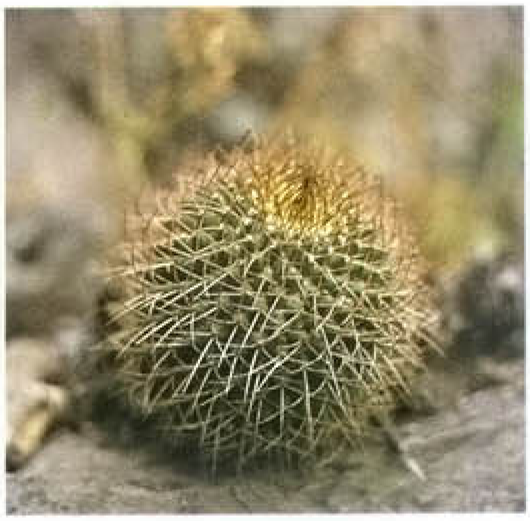

MAMMILLARIA **OBCONELLA** Scheidw.
Syn: *Mammillaria tetracantha* (Salm-Dyck) Br. & R.

The plants are rounded or elongated, later clustering. Each dark-green stem is up to 10in tall, 6in thick, and has four-edged or rounded tubercles and dense, white woolly axils. The brownish-yellow spines are mainly centrals up to 1in long; only rarely are there one or two very thin radials. Day flowering in summer, the blooms are carmine red with pinkish edges, about ¾in long, ⅔in across. Requires a sunny position; normal cactus compost; minimum temperature 50°F. *Mexico (Hidalgo).*

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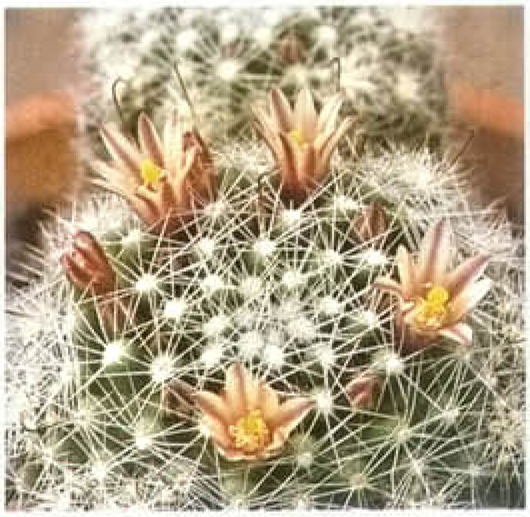

MAMMILLARIA **OTEROI** Glass & Foster

A dull-green, clustering species with stems ¾–1in high, 1–1½in thick. It has cylindrical tubercles and woolly axils with a few hair-like bristles. The large, white areoles bear 12–14 white radial spines tipped with pale brown, ¼–⅓in long, and one longer hooked central, up to ½in, and white, with a reddish-brown tip. Flowers are whitish, each petal having a prominent center stripe of reddish brown. They are ⅔in long and across, day flowering in summer. Requires slight shade; normal cactus compost; minimum temperature 55°F. *Mexico (Oaxaca).*

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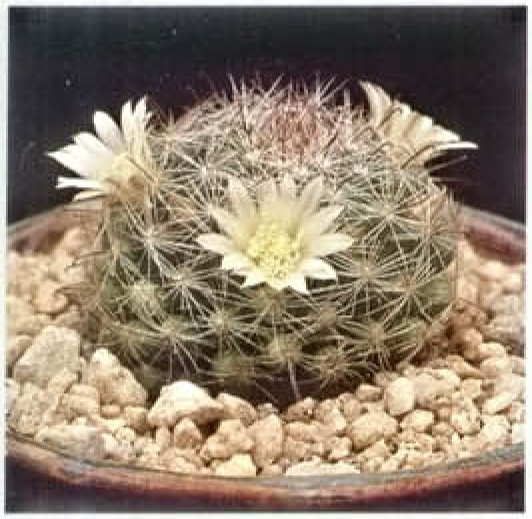
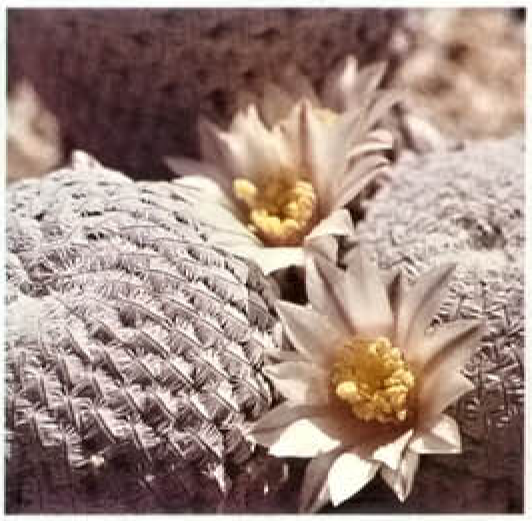


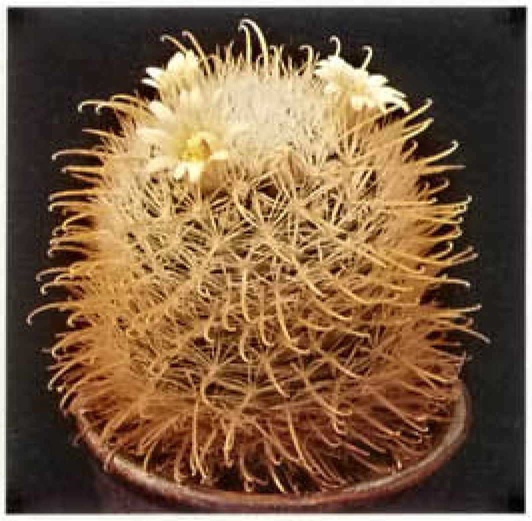
MAMMILLARIA **PAINTERI** Rose

A small globular species ¾in or more in diameter, though often up to 2in in cultivation. It is dull green, with somewhat cylindrical-shaped tubercles, and bare axils. The areoles carry about 25 white radial spines ⅕in long and four to five dark-brown centrals, one hooked, about ½in in length. Flowers are greenish-white, 2in long and across; they are summer flowering, and diurnal. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Queretaro).*



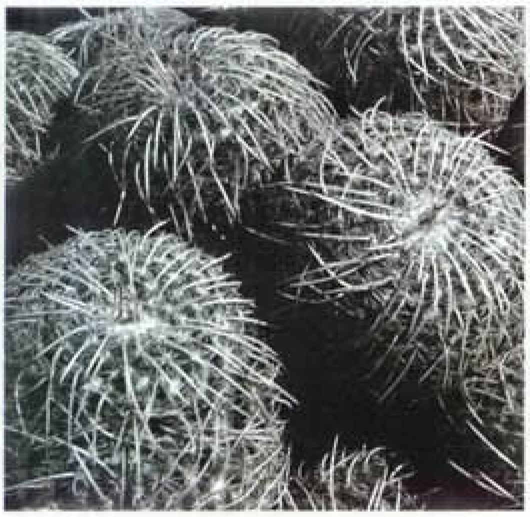
MAMMILLARIA **PECTINIFERA** Weber
Syn: *Solisia pectinata* (Stein) Br. & R.

A popular species with globular stems about 3¼in high, 2½in thick, rarely offsetting from the base. The tubercles are ax-shaped, and the axils bare. The elongating areoles carry about 40 silvery-white radial spines arranged like a comb, each ⅒in long; there are no centrals. It is day flowering in early to mid-summer, producing pale-pink flowers with a pale-purplish median line, ¾in long, opening to 1in across. Requires slight shade; normal cactus compost with a little lime added; minimum temperature 50°F. *Mexico (Puebla).*



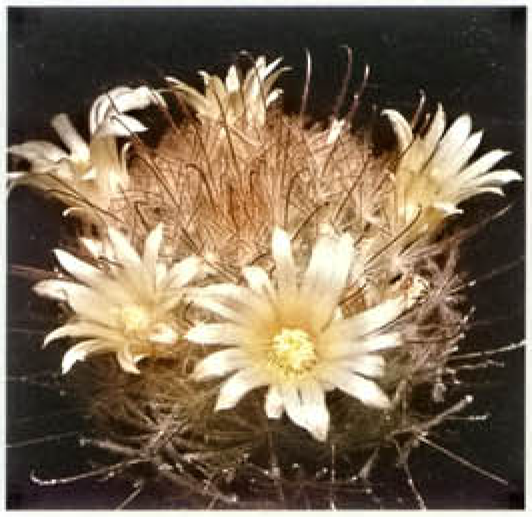
MAMMILLARIA **PENNISPINOSA var. NAZASENSIS** Glass & Foster

Very similar to the species in size and particular characteristics. The difference is mainly in the spines, which are not as pubescent and are yellow in color. Requirements are the same as for the species. *Mexico (Durango, Coahuila).*



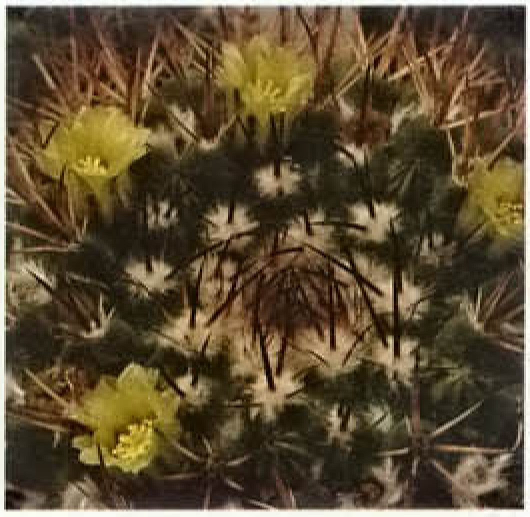
MAMMILLARIA **PARKINSONII** Ehrenb.

An unusual species, comprising globular stems which divide dichotomously, each about 4in thick, clustering to form clumps of 40–50 heads or more. The tubercles are pyramidal, with wool and bristles in the axils. The areoles bear 30–35 white radial spines ⅒–⅕in long and two to five white, brown-tipped centrals, one hooked, to 1⅕in in length. Flowering by day in mid-summer, creamy white or pinkish with a dark-pink median line, about ⅔in long and across. Requires full sun; normal cactus compost with a little lime; minimum temperature 55°F. *Mexico (Hidalgo, Queretaro).*



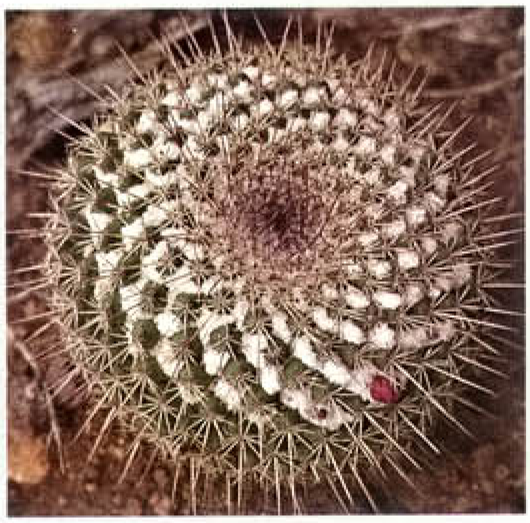
MAMMILLARIA **PENNISPINOSA** Krainz

A globular, solitary species, only clustering with age. Individual stems are 1–1½in tall and thick with slightly cylindrical-shaped tubercles and bare axils, only slightly felted as young plants. There are 16–20 pubescent, grayish white radial spines up to ⅓in long, and one to three reddish centrals about ½in long, one of them hooked. A day flowering plant in summer, the flowers are pale yellowish or pinkish white with a pinkish median line, about ⅔in long and ½in wide. Requires a very bright position; normal cactus compost; minimum temperature 50°F. *Mexico (Durango).*



MAMMILLARIA **PETROPHILA** K. Brand.

A solitary, later clustering species, the gray-green stems are up to 6in thick. Tubercles are cone-shaped, and the axils have brownish-yellow wool and bristles. White areoles bear eight to ten brownish-black radial spines ½–⅔in in length and one longer, similarly colored central up to ¾in long. Flowers are greenish yellow with a slightly deeper shade in the center of the petals, and are ¾in long and across. Summer flowering, they are diurnal. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Baja).*



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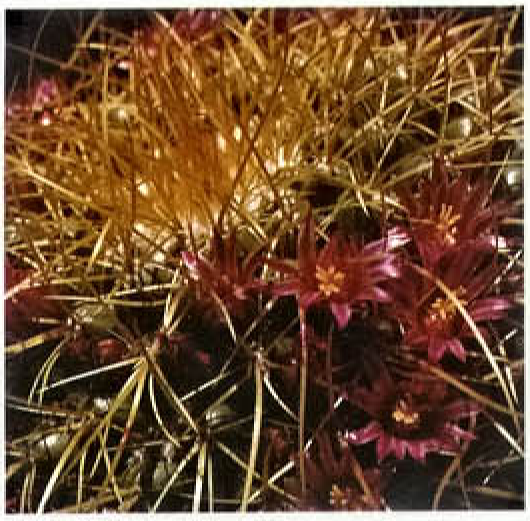

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MAMMILLARIA **PETTERSONII** Hildm.

A large, roundish plant 6in or more in diameter, with large tubercles spirally arranged. These are three-edged, ½in long and wide, and there are white woolly axils. The 10–12 radial spines are variable in color, being white, or yellowish brown, often with black tips, and ⅒–⅖in long. There are four similarly colored centrals, up to ¾in in length. Flowers, which are diurnal and summer flowering, are deep pink with an almost magenta midstripe, 1in long and across. Requires bright sun; normal cactus compost; minimum temperature 55°F. *Mexico (Guanajuato).*

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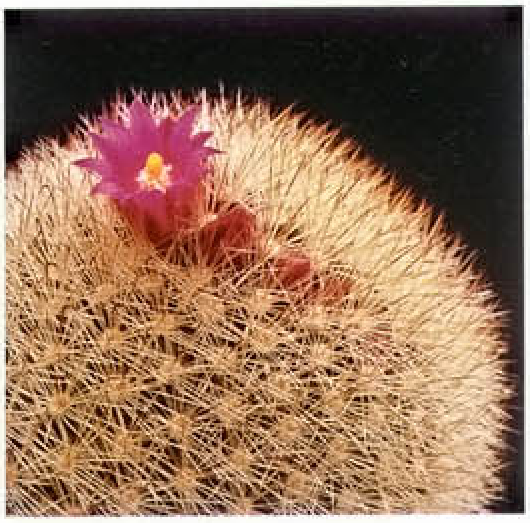

MAMMILLARIA **PILCAYENSIS** Bravo

This is also spelt "pitcayensis" in error. A dark-green, cylindrical-shaped plant up to 9½in high, 1½–2in thick, with somewhat conical tubercles. Axils are woolly and bristly and the radial and central spines are very similar, all whitish, tipped reddish or pale brown, and ⅕–¼in long. Flowering in summer, the flowers are diurnal and about ¾in long, reddish purple. Requires bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Guerrero).*

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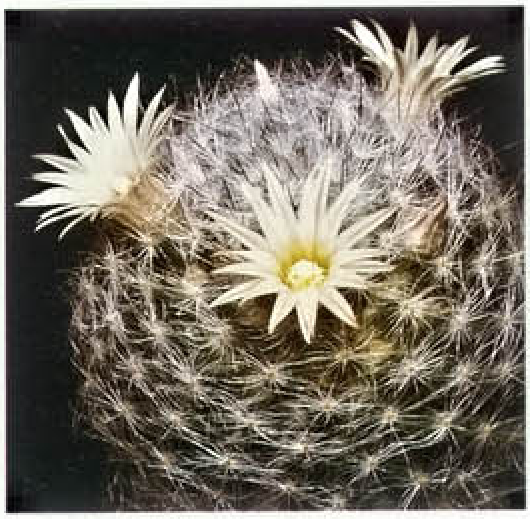

MAMMILLARIA **PILISPINA** Purp.

Somewhat globular plants eventually forming clusters. Each head is dark green and about 1½in thick, with cylindrical tubercles and woolly axils with fine bristles. Areoles bear pubescent, thin white spines made up of four to five radials ¼–⅓in long and one central to ⅓in. Flowers are creamy white with a deep-pink midstripe, ⅔in long and ½in across; they are summer flowering and diurnal. Requires bright light; normal cactus compost plus a little lime; minimum temperature 55°F. *Mexico (San Luis Potosi).*

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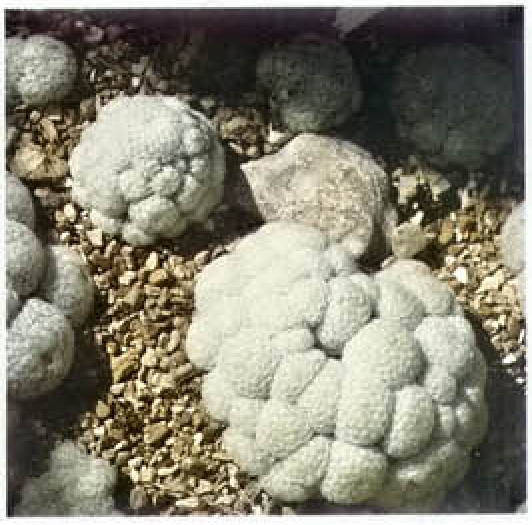

MAMMILLARIA **PLUMOSA** Weber

Globular plants, clustering freely. Each stem is about 3in in diameter with white woolly axils; the cylindrical tubercles are hidden by the general white woolly covering and spines. There are about 40 radial spines ⅒–⅓in long, all white and feathery. The flowers are greenish white or pale yellowish with a darker median stripe, about ⅖in long and wide, and are diurnal, appearing in summer. Careful watering is essential, but best around the plant, not over it. Requires full sun; a normal cactus compost with lime added; minimum temperature 50°F. *Mexico (Coahuila).*

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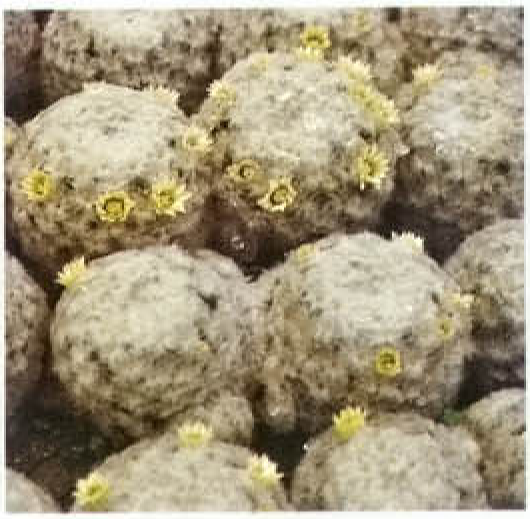

MAMMILLARIA **PLUMOSA** Weber

The more rounded stem form is usually referred to as the "golf-ball variety." It nevertheless gradually clusters, but tends to retain its almost globular shape.

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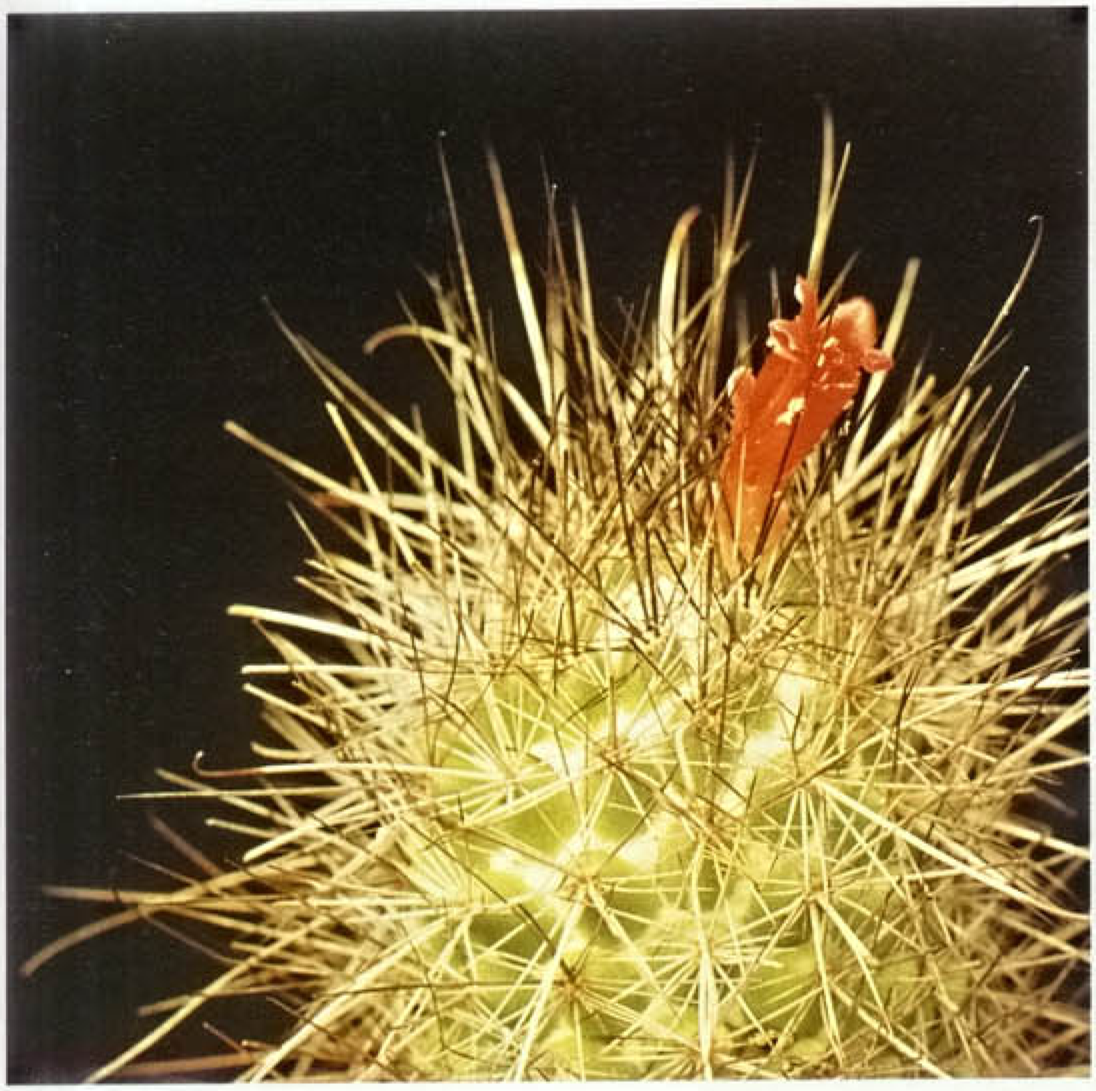
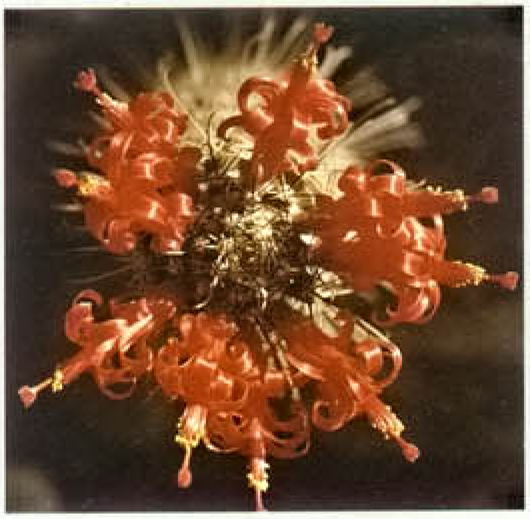


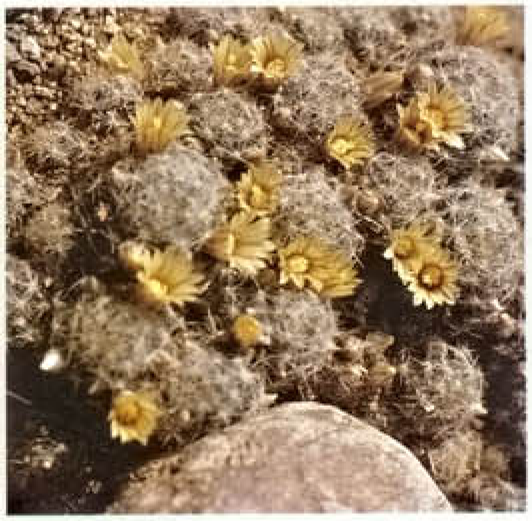
MAMMILLARIA **PONDII** Greene
Syn: *Cochemiea pondii* (Greene) Walt.

A rather cylindrical-shaped plant up to 1ft high, 1–1½in wide, frequently offsetting. It has whitish wool and bristles in the axils and 15–30 whitish or pale-brownish radial spines up to ½in long. There are four to six or more centrals, about 1in long and pale yellowish with brown tips, one of them hooked. Flowers appear in mid-summer and are diurnal. These are bright scarlet, about 2in long. Requires full sun; normal cactus compost; minimum temperature 55°F. *Mexico (Baja, Cedros Isl.).*



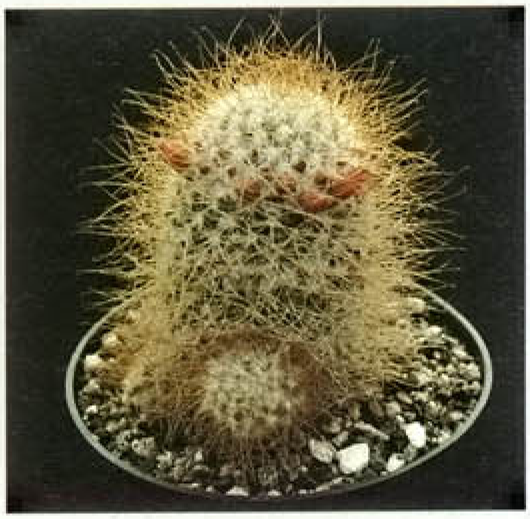
MAMMILLARIA **POSELGERI** Hildm.
Syn: *Cochemiea poselgeri* (Hildm) Br. & R.

Somewhat cylindrical plants to 6½ft long in their habitat, rarely exceeding 1½in thick. Bluish or grayish green in color, they frequently branch from the base to form clusters. Axils are woolly, occasionally with a few bristles. The areoles bear about eight white, brown-tipped radial spines to ½in long, and one hooked central similar in color, up to about ¾in long. Mid-summer flowering, the plant is diurnal with bright scarlet flowers 1in long. Requires full sun; normal cactus compost; minimum temperature 55°F. *Mexico (Baja).*



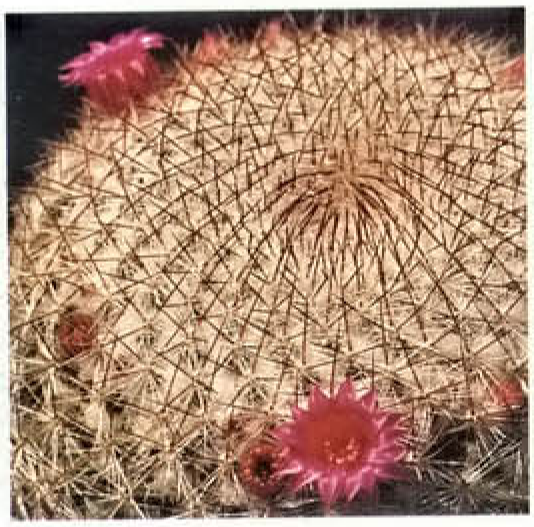
MAMMILLARIA **PROLIFERA** (Mill.) Haw.

A dull-green, dense clustering species. Individual stems are 3¼–3½in long, 1½–2in thick, with roundish, conical tubercles and fine white hairy axils. Areoles bear 20–40 white radial spines up to ½in or more in length and five to twelve white, yellowish, or pale-reddish centrals ⅕–⅔in long. Summer flowering, and diurnal, the flowers are creamy yellow with a brown or reddish median stripe, ½–⅔in long. Requires full sun; normal cactus compost; minimum temperature 55°F. *USA (Texas), West Indies.*



MAMMILLARIA **REKOI var. LEPTACANTHA LAU** (BR. & R.) Vaup.
Syn: *Mammillaria pullihamata* Backeb.

A globular to elongated species up to 4¾in tall, 2–2½in wide, offsetting from the base. The fresh-green stems have cone-shaped tubercles and axils with white wool and bristles. There are about 20 whitish radial spines ⅕–¼in long and four brown central spines ½–⅔in long, the lower one hooked. Flowers are reddish purple, about ⅔in long, and appear by day in summer. Requires bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Oaxaca).*



MAMMILLARIA **REPPENHAGENII**
D. R. Hunt

A globose or elongating species, occasionally offsetting, up to about 2½in in diameter. The crown of the stems is covered in dense white wool. Areoles have about 22 white radial spines, ⅒in long and two to five brownish, later becoming grayish, centrals, about ⅓in in length. Day flowering in summer, the flowers are carmine red, with the edges of the petals slightly paler, ½in long and across. Requires full sun; normal cactus compost with a little lime added; minimum temperature 50°F. *Mexico (Colima, Michoacan).*

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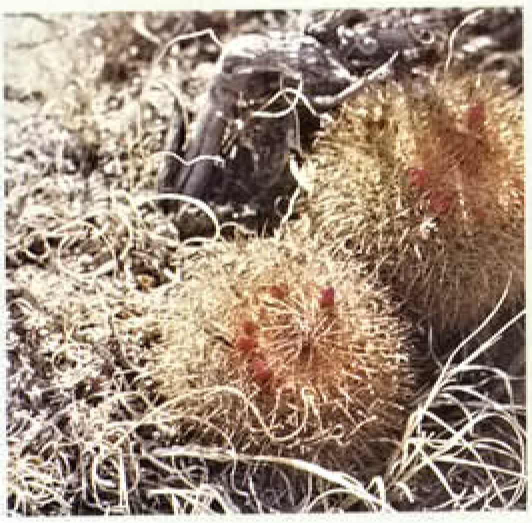

MAMMILLARIA **RHODANTHA** Link & Otto

Mostly solitary, globular plants up to 1ft tall, 4in thick, with rather cone-shaped tubercles and white, woolly axils. Areoles have 16–24 white or yellowish radial spines ¼–½in in length and four to seven often curved centrals, ½–⅔in long. Flowers occur in summer and are diurnal, purple pink, ¾in long and about ½in across. Requires bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Hidalgo, Queretaro).*

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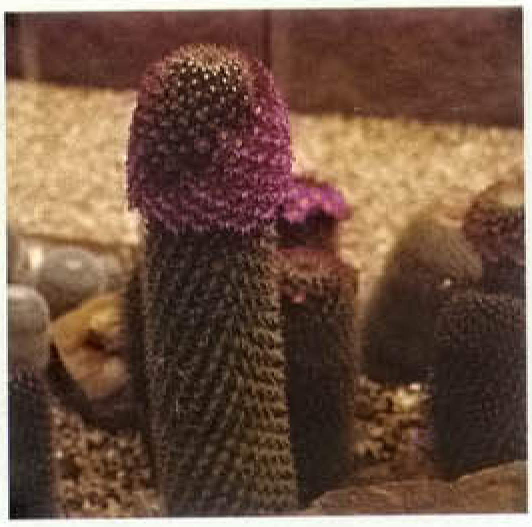

MAMMILLARIA **RHODANTHA var. RUBRA**
K. Sch.

Similar to the species, but more cylindrical. The spines are dark brown, the bright purplish-pink flowers forming in profusion around the crown of the plant. Requirements are the same as for the species. *Mexico (Hidalgo, Queretaro).*

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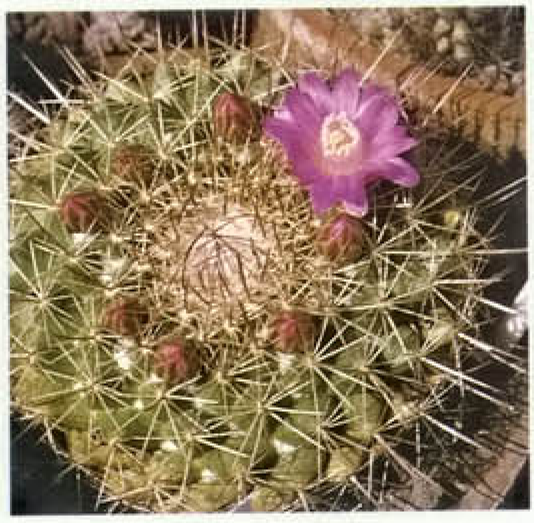

MAMMILLARIA **RUBROGRANDIS**
Reppenhagen & Lau

A dull-green globular plant, usually solitary, and up to 4in high, 7in broad. It has four-angled tubercles and axils at first woolly, later bare, as are also the areoles. These have 11–13 pale to dark-brown radial spines ⅕–½in long, and one to four centrals ½–¾in in length. Day flowering in early summer, the blooms are funnel-shaped, about 1½in long and wide, and bright carmine. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Mexico (Tamaulipas).*

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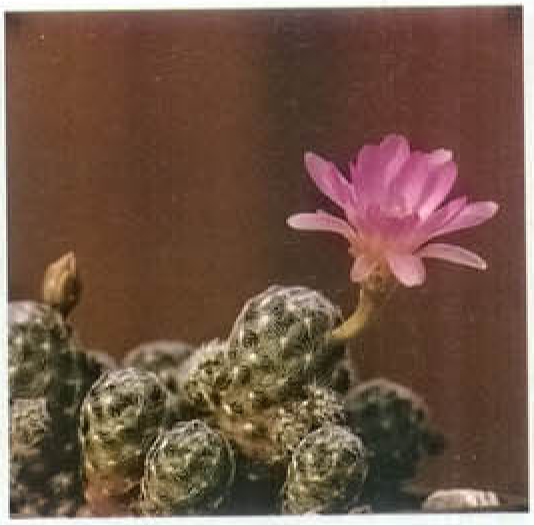

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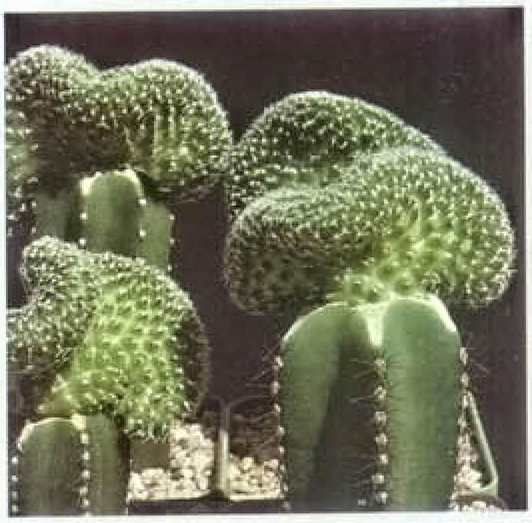

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MAMMILLARIA **SABOAE** Glass

A solitary or clustering species, each dark-green globular stem is ½–¾in high and wide. It has somewhat pyramid-shaped tubercles and bare axils. The spines, all radials, are ⅒in long and white, yellowish near the base. Flowers occur in daytime in summer; they are rose pink and around 1½in long and across. Requires bright light; normal cactus compost; minimum temperature 50°F. A very attractive cristate form occasionally occurs; this stem formation is best maintained by grafting on to *Cereus* stock. *Mexico (Chihuahua).*

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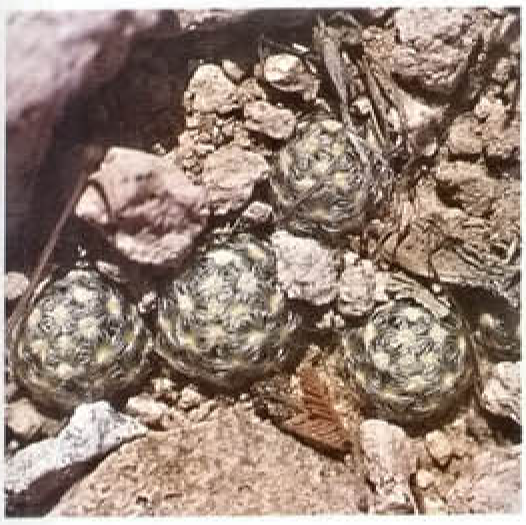

MAMMILLARIA **SABOAE var. GOLDII** (Glass & Foster) Glass & Foster
Syn: *Mammillaria goldii* Glass & Foster

Very similar to the species except that there are 35–45 radial spines and they are glassy white, ⅒in long. Flowers are dark lavender pink, about 1⅓in long and across. Requirements are the same as for the species. *Mexico (Sonora).*

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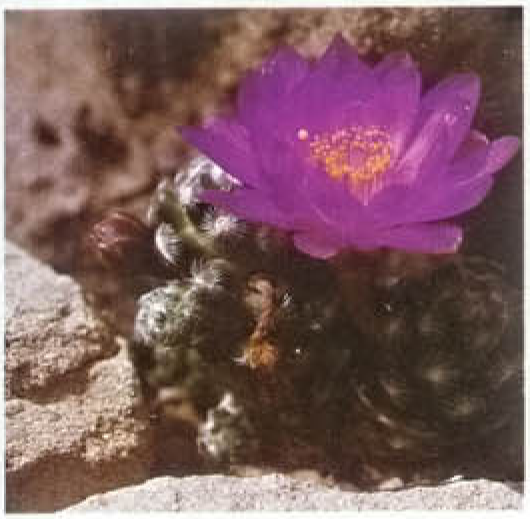

MAMMILLARIA **SABOAE var. HAUDEANA** (Lau & Wagner) Glass & Foster
Syn: *Mammillaria haudeana* Lau & Wagner

Similar to the species. The greenish stem is ¾–1½in in size, and it has 18–27 spines, slightly recurved to ¼in in length. Flowers are dark lilac pink, 2¾in across when fully expanded. Requirements are similar to those for the species. *Mexico (Sonora).*

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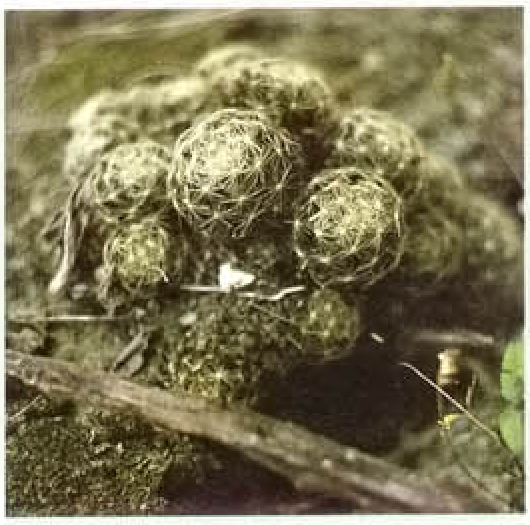

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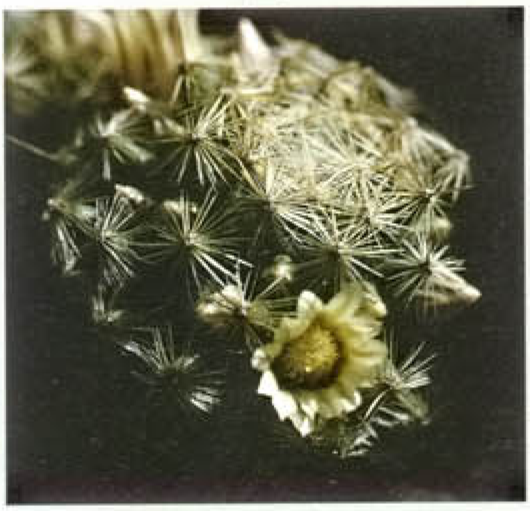

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MAMMILLARIA **SCHIEDEANA var. DUMETORIUM** (Purp.) Glass & Foster
Syn: *Mammillaria dumetorum* Purp.

Plants are solitary or clustering. Individual stems are globular with flattish tops, 2–2½in in diameter, and up to 4in high. Tubercles are somewhat cone-shaped, and the axils have long white woolly hairs. All spines are radial; 70–80 or more in number, they are very fine, hair-like, golden yellow, and ⅕in long. There is also var. *dumetorum* (Purp.) Glass & Foster, with stiff, glassier spines. Flowering is by day in summer and fall and the flowers are about ¾in long, yellowish white, often with a deeper shade median line. Requires sun; slightly calcareous cactus compost; minimum temperature 50°F. *Mexico (Hidalgo).*

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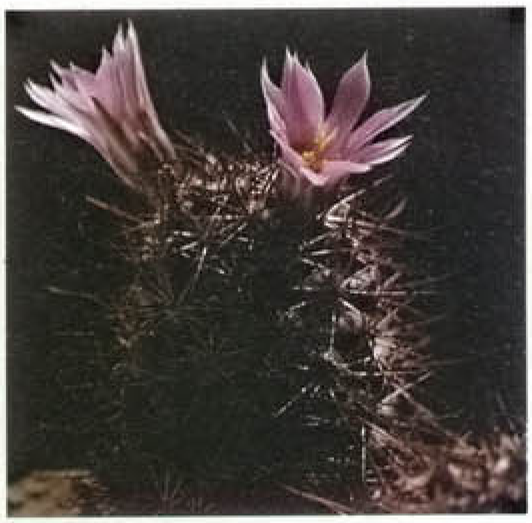

MAMMILLARIA **SCHUMANNII** Hildm.
Syn: *Bartschella schumannii* (Hildm.) Br. & R.

The stems are globular to elongating, 1½–2in high, 1in thick, and clustering freely. Tubercles are four-angled at the base with woolly axils which become bare with age. The white, brownish-tipped spines consist of nine to fifteen radials, ⅓–⅔in long, and one to four centrals ⅔in long, one of them hooked. Day flowering in summer, the flowers are pale purplish, with the petal edges more pinkish, and 1in across. Requires sun; normal cactus compost; minimum temperature 55°F. *Mexico (Baja).*

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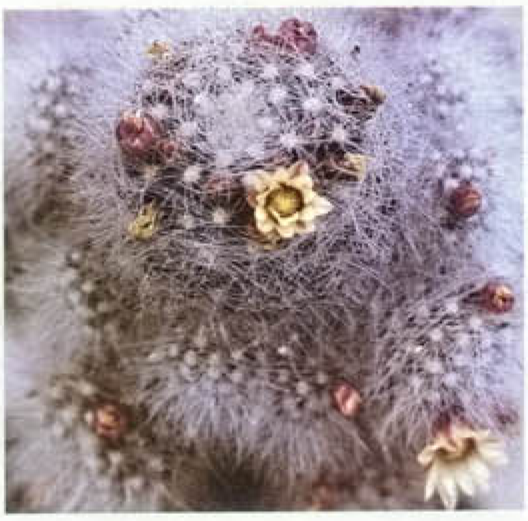

MAMMILLARIA **SCHWARZII** Shurly

A rapidly clustering species, the globular stems are around 1in in diameter. Tubercles are more or less cylindrical, and the axils have several white bristles about ⅕in long. Areoles bear 35–40 fine white radial spines to ⅓in long and eight to nine white, brown-tipped centrals about ⅕in long, one of them hooked. Flowers occur in summer and are diurnal; they are about ⅔in long, ½in across, whitish or pale yellowish, with a red or pink median line to the petals. Requires bright light; normal cactus compost; minimum temperature 55°F. *Mexico (Northern Guanajuato).*

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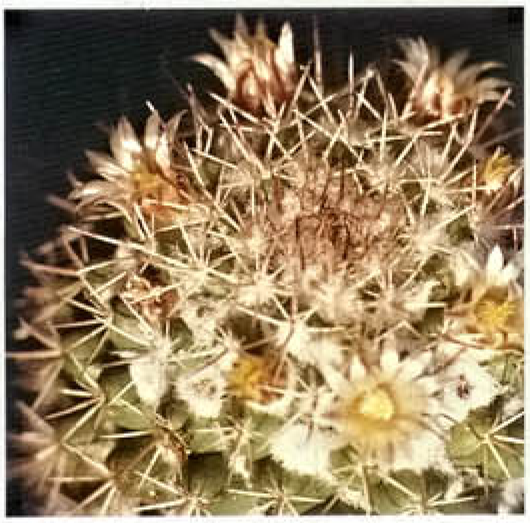
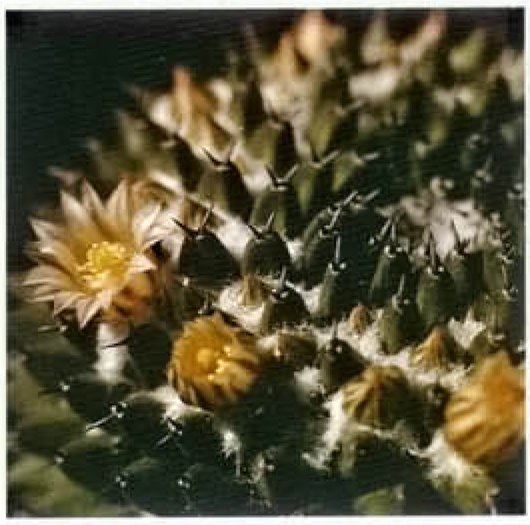


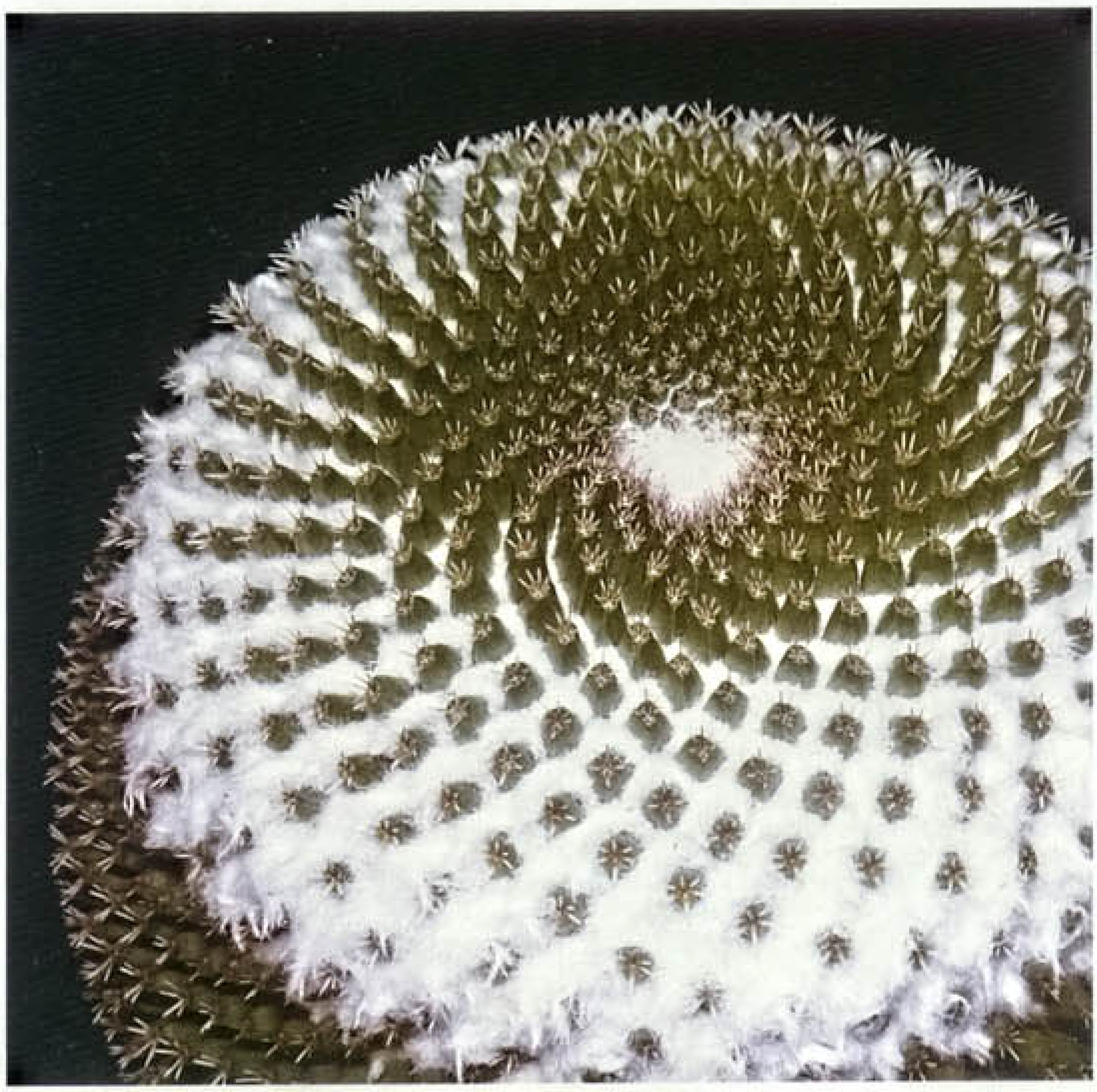
MAMMILLARIA **SCRIPPSIANA** Br. & R.

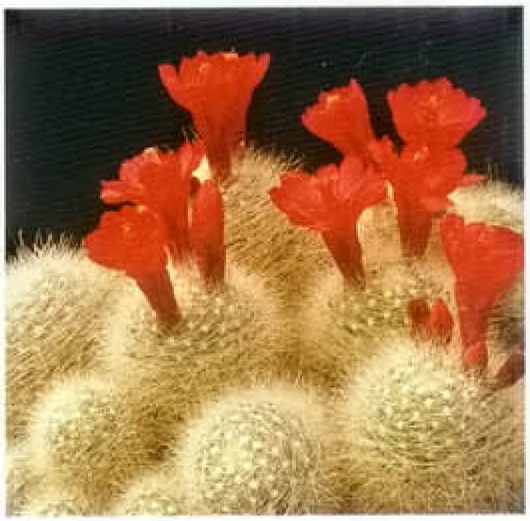
A bluish-green, clump-forming species, each globular stem is about 2½in high, with oval tubercles and dense white woolly axils and areoles. These have eight to ten pinkish-red radial spines ⅓in long and two brown centrals up to ⅔in in length. Day flowering in summer, the pinkish-yellow to purplish-pink flowers are about ⅔in across. Requires bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Jalisco).*



MAMMILLARIA **SEMPERVIVI** DC.
Syn: *Mammillaria pseudocrucigera* Craig

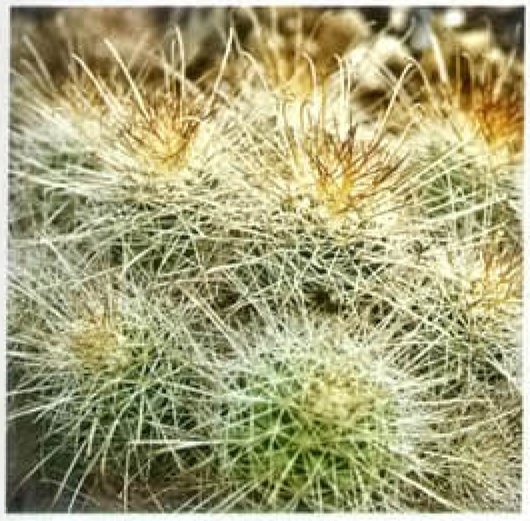
A globular plant which "reluctantly" offsets. The stems are dark green and 3¼in in diameter, with slender pyramidal tubercles and dense wool in the axils. Areoles bear three to seven white radial spines about ⅒in long, and two, rarely four, reddish or yellowish centrals to ¼in in length. Flowers, which are whitish or yellowish pink with a reddish median stripe in the petals, are summer flowering, and diurnal. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Hidalgo).*





MAMMILLARIA **SENILIS** (Lodd.) Salm-Dyck
Syn: *Mamillopsis senilis* (Lodd.) Weber

These are globular to oval plants, eventually clustering. Each light-green stem is 4in–6in long, 2½in wide, with white, woolly, and bristly axils. There are 30–40 pure white or yellowish-white radial spines up to ¾in long and five to six centrals up to ¾in long, one hooked. These are white with yellow or very pale-brownish tips. Flowers appear in early summer, and are diurnal, violet red in color and 2½in long, 1½–2in across borne on a long tube. The plant must be kept totally dry in the rest period. Requires sun; a porous, enriched mineral compost; minimum temperature 45°F. *Mexic (Chihuahua, Durango, Oaxaca).*



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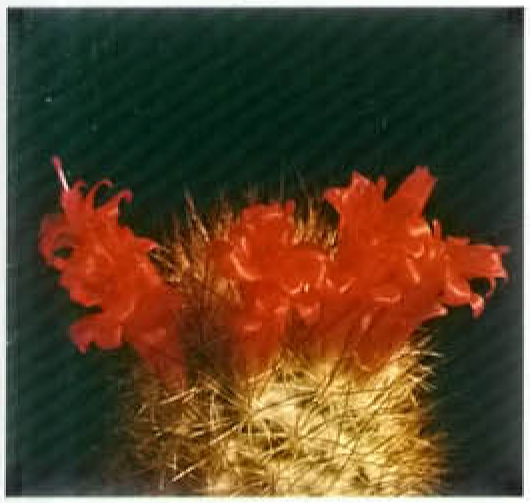

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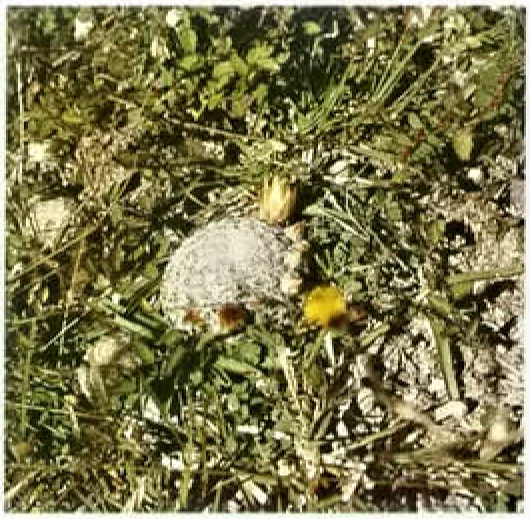
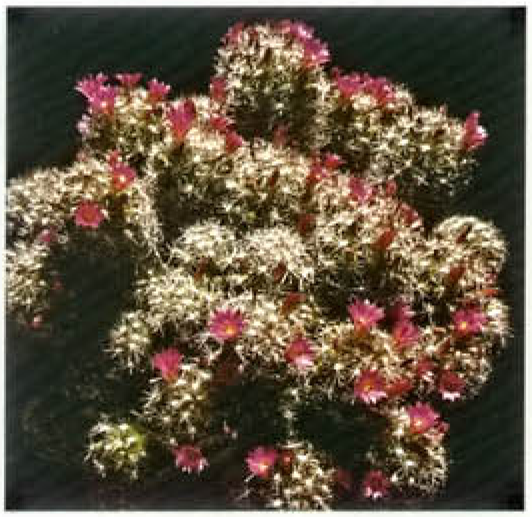
MAMMILLARIA **SETISPINA** (Coult.) Engelm. ex K. Brand.
Syn: *Cochemiea setispina* Coult.

A clustering plant with stems up to 1ft high, 1–2½in thick. Both axils and areoles have white wool and the spines are white with black tips. There are 10–12 radials ½–1¼in long and one to four centrals ¾–2in in length, the lowest often hooked and curved. Flowers are scarlet, up to 2in long, the stigma and anthers exserted; they are diurnal, and summer flowering. Needs good light; normal cactus compost; minimum temperature 55°F. *Mexico (Baja).*



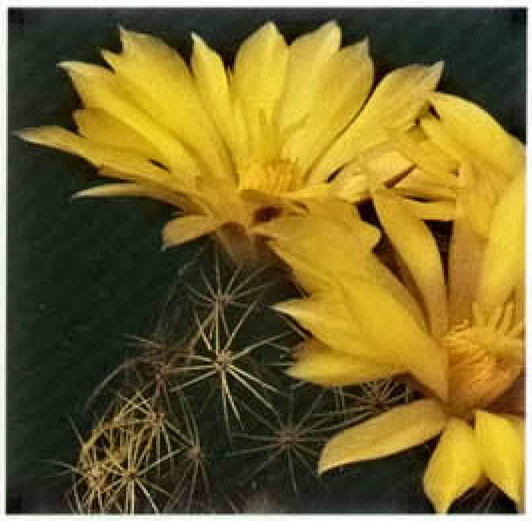
MAMMILLARIA **SOLISIOIDES** Backeb.

A bright-green globular species 2–2½in diameter, rarely offsetting. The tubercles are short cone-shaped, with bare axils. It has about 25 white radial spines, ⅕in or a little longer, arranged in a comb-like formation; there are no centrals. Flowers are diurnal, appearing in spring or summer. Yellowish white, about ¾in long, 1in across. Requires very careful watering at all times; bright light; normal cactus compost; minimum temperature 55°F. *Mexico (Puebla).*



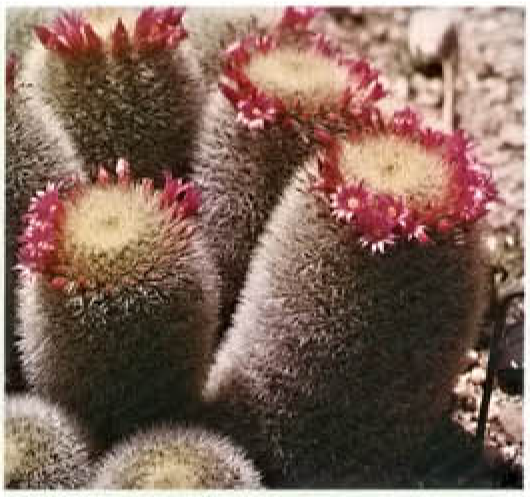
MAMMILLARIA **SPHACELATA** Mart.

A bright-green species, solitary becoming clustering, cylindrical in shape, up to 8in tall, ½–1in thick. The tubercles are cone-shaped, and the axils are woolly and bristly. The 10–15 white radial spines are ⅓in long, with tips sometimes speckled red, and there are one to four centrals, white with brown tips, ⅓in in length. Flowers are dark purplish red, about ¾in long, ⅓in across; these are diurnal, appearing in summer. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Puebla, Oaxaca).*



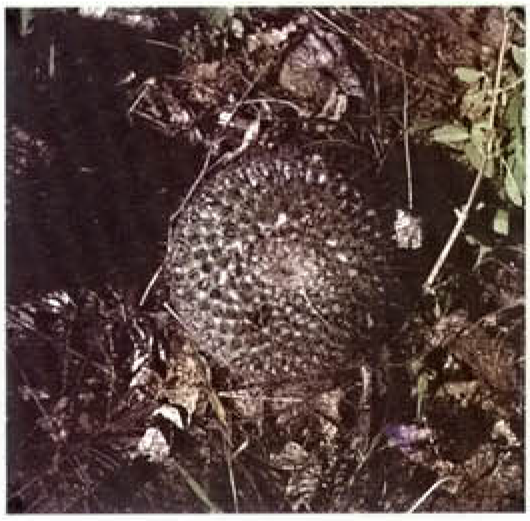
MAMMILLARIA **SPHAERICA** Dietr.
Syn: *Dolichothele sphaerica* (Dietr.) Br. & R.

A dense clustering species; each stem is 2in diameter with long tubercles about ¾in in length, axils either bare or with a little wool. Spines are whitish or pale yellowish. Of nine to fifteen radials ⅓in long and one central ⅓in in length. Flowers appear in summer, are diurnal; bright yellow, 2½–3in across. Requires bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Tamaulipas), USA (Texas).*



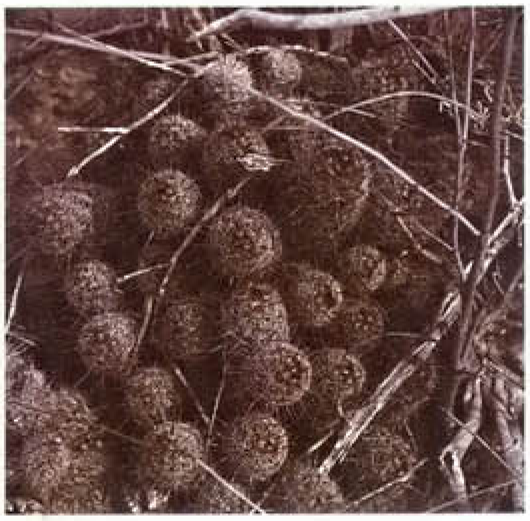
MAMMILLARIA **SPINOSISSIMA** Lem.

Oval-shaped, bluish-green plants to 8in high, 2½–3in thick. Have oval, cone-like tubercles and white woolly and bristly axils. Areoles bear 20–30 white, yellowish or brownish radial spines to ½in in length and seven to fifteen whitish or yellowish centrals, one sometimes hooked, about ¾in long. Summer flowering plants, diurnal, with flowers set in a ring around top of the stems. Each is about ¾in long and wide, purplish pink. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Morelos, Hidalgo, Puebla, Guerrero).*



MAMMILLARIA **STANDLEYI** (Br. & R.) Orc.

A dark-green globular species which tends to remain solitary. It is 4–6in diameter with cone-shaped tubercles and white woolly, bristly axils. Areoles have 16–19 brown-tipped white radial spines up to ⅓in long, and four brownish, bristly centrals ⅓in or more long. The purplish flowers, about ½in long and wide, appear in summer, and are day flowering. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Mexico (Sonora, near Alamos).*

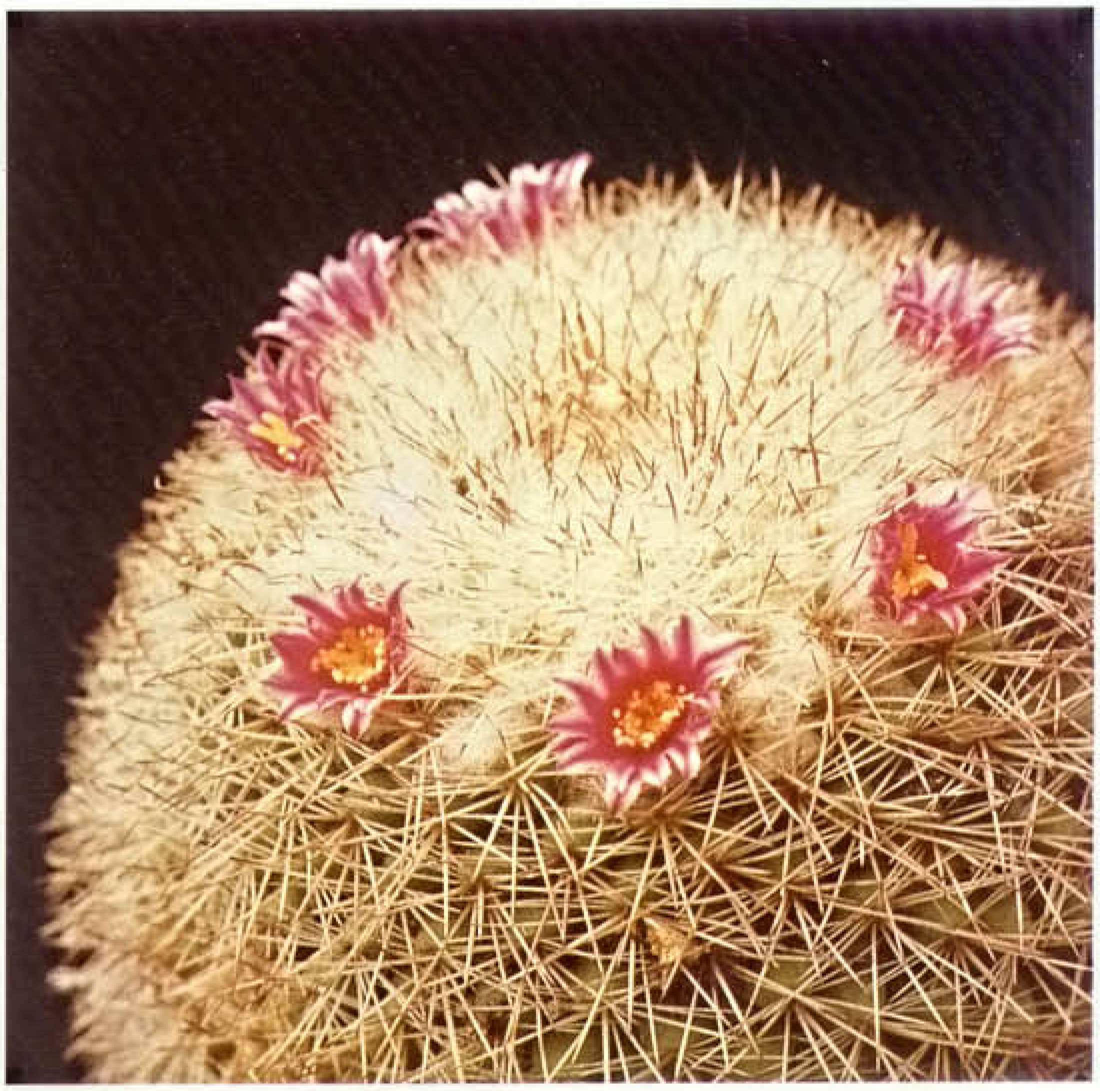


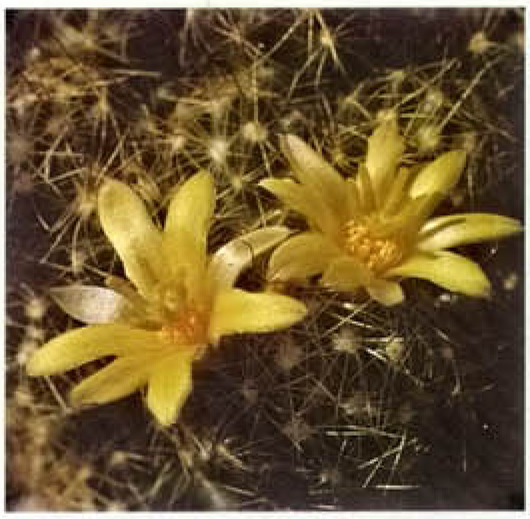
MAMMILLARIA **SWINGLEI** (Br. & R.) Böed.

Globular to columnar plants and clustering. The dark-green stems are 4–8in tall, 1–2½in in diameter, with somewhat conical tubercles and axils with only a few bristles. The black-tipped whitish radial spines are 11–18 in number and up to ½in long and there are one to four brownish-black centrals to ¾in in length. Flowers are white or creamy white with a brownish-green center stripe, about 1in long and across; these are diurnal, in summer. Requires sun or very light shade; normal cactus compost; minimum temperature 50°F. *Mexico (Sonora).*

MAMMILLARIA **TAYLORIORUM** Glass & Foster

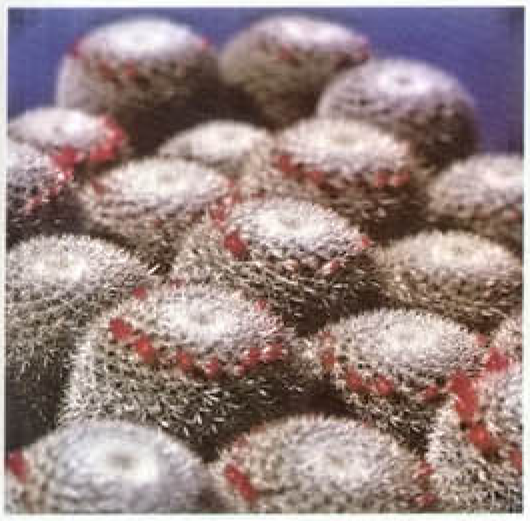
The stem is globular, solitary or clustering, up to 10in high, 4–4½in wide. It has conical tubercles, and the axils are woolly when young, then sparse with one or two bristles. There are about 12 brownish-tipped white radial spines about ⅓in long and two or three or possibly four to five centrals similar to the radials. Summer flowering and diurnal, the flowers are ¾in long, ½in across, pinkish with white edges to the petals. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (San Pedro Nolaso Isl., Sonora).*





MAMMILLARIA **SURCULOSA** Böed.
Syn: *Dolichothele surculosa* (Böed.) Buxb.

A bright-green, clustering species with stems up to 2in high, 1in thick. It has cylindrical tubercles up to ⅓in long, and bare axils. There are 12–15 white, stiff radial spines to ½in long and one hooked, yellowish-brown central to ¾in long. The flowers are bright yellow, about ¾in long, with inner petals tipped orange-red; these are diurnal, appearing in summer. Requires good light; normal cactus compost; minimum temperature 50°F. *Mexico (San Luis Potosi, Tamaulipas).*



MAMMILLARIA **TEGELBERGIANA** Linds.

A dull-green globular species, offsetting with age, 3–3¼in high and 2½in in diameter. The tubercles are conical, and the axils have white wool. There are 18–24 white radial spines ⅛–¼in long and four to six white to pale-yellow, brown-tipped centrals, about ⅓in long. Flowering is by day in early to mid-summer; the flowers are purplish pink, ½–¾in long. Requires very slight shade; normal cactus compost; minimum temperature 55°F. *Mexico (Baja).*

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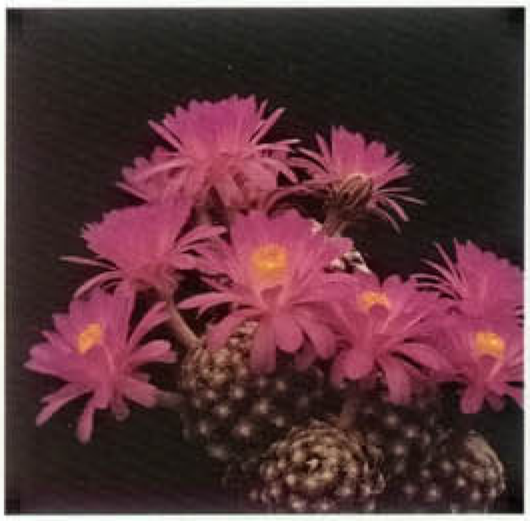

MAMMILLARIA **THERESAE** Cutak

Dark-green solitary plants, rarely clustering. They are oval-shaped, 1½in tall and ¾–1in wide, with oval tubercles and axils with little wool. The sparsely woolly areoles bear 22–30 white, feathery radial spines; there are no centrals. Flowering in summer, and diurnal, the rich violet-purple flowers are about 1¼in wide, 1¼–1⅓in long. Requires full sun; normal cactus compost; minimum temperature 55°F. *Mexico (Durango).*

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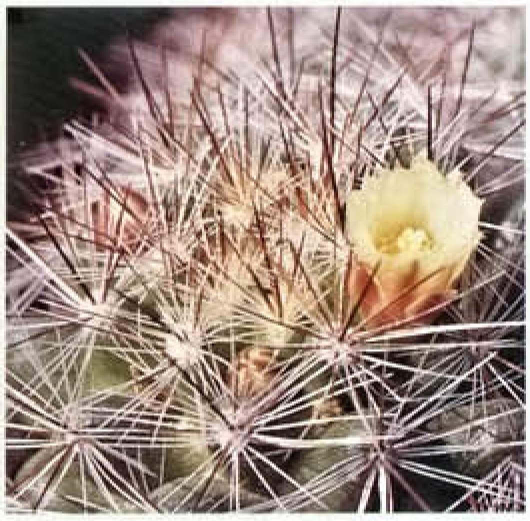

MAMMILLARIA **VETULA** Mart.

M. magneticola Meyran is possibly synonymous. Round, about 1½in in diameter, quickly clustering. Stems are a fresh green with conical tubercles, the axils occasionally woolly. There are about 30 white bristle-like radial spines, ½in long. The central spines are reddish or yellowish, and about ½in long, normally one or two, but frequently four or more. Flowers are yellow, about ⅔in long, ½in across, and appear by day in summer. Requires bright light; normal cactus compost plus a little lime; minimum temperature 50°F. *Mexico.*

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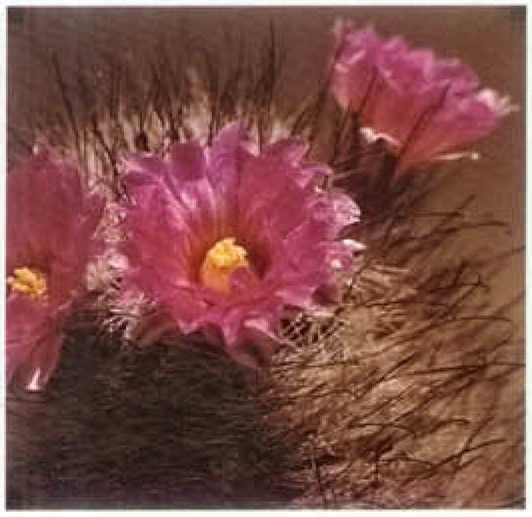

MAMMILLARIA **TETRANCISTRA** Engelm. Syn: *Phellosperma tetrancistra* (Engelm.) Br. & R.

These vary from about 2in to 10in tall, and 2–4in in diameter, with roundish tubercles, and axils with bristles and little wool. There are 30–60 whitish or purplish brown radial spines ⅕–⅓in long, and one to four, brown or black centrals to ¾in long, hooked or straight. Flowers are lavender pink, edged white, and 1in long, 1–1¼in across: they are diurnal, in summer. Requires sun; normal cactus compost; minimum temperature 50°F. *USA (Southern States), Mexico (Baja, Sonora).*

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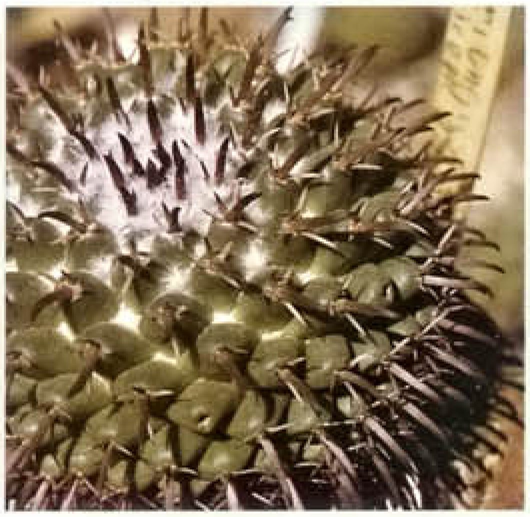

MAMMILLARIA **UNCINATA** Zucc. ex Pfeiff.

A bluish-green globular, solitary plant, 3¼in high, 4in in diameter. It has somewhat rounded, pyramid-shaped tubercles and axils with white wool, especially in the younger plants. There are four to seven black-tipped white radial spines ⅓in long and one to three pinkish centrals with brownish tips, ½in long and slightly hooked. Day flowering summer plants, flowers are reddish white with a brown center stripe to the petals, ¾in long and ¾in across. Needs slight shade; normal cactus compost; minimum temperature 50°F. *Mexico (Hidalgo, Guanajuato, San Luis Potosi).*

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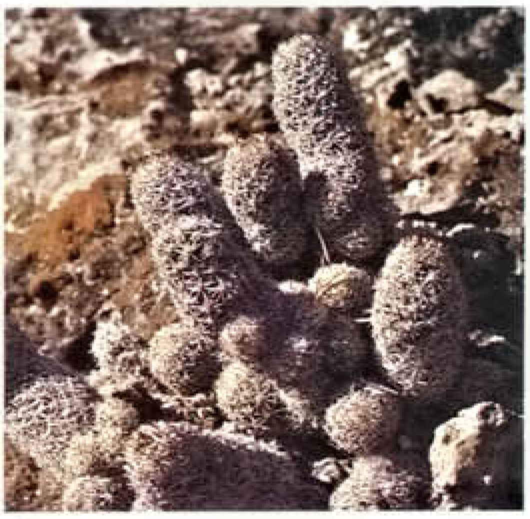

MAMMILLARIA **VIPERINA** Purp.

Closely related to *M. sphacelata* Mart. The stems are very slender, 6–8in long, ⅔–¾in thick, and bright green. The tubercles are somewhat cylindrical in shape, and the axils often woolly and bristly. Radial spines, of which there are 25–30, vary from pale yellowish to brown, and are about ⅕in or little more long; there are no centrals. Day flowering in summer, the flowers are about ½in long, and bright carmine red. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Tamaulipas).*

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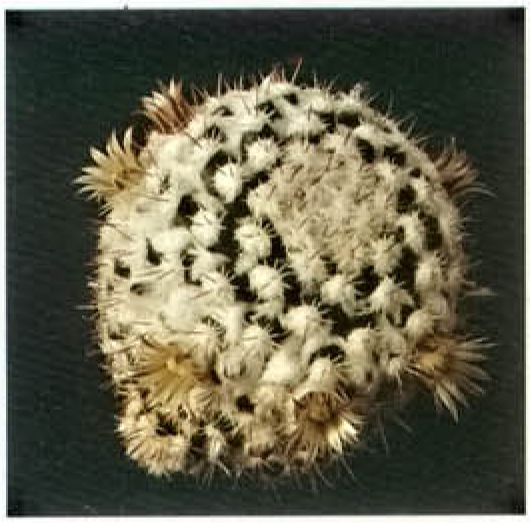
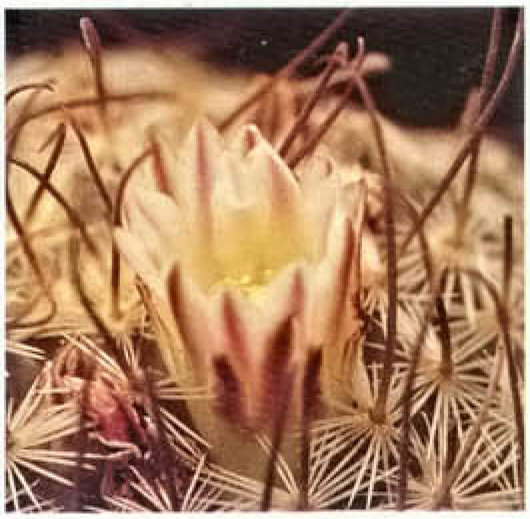


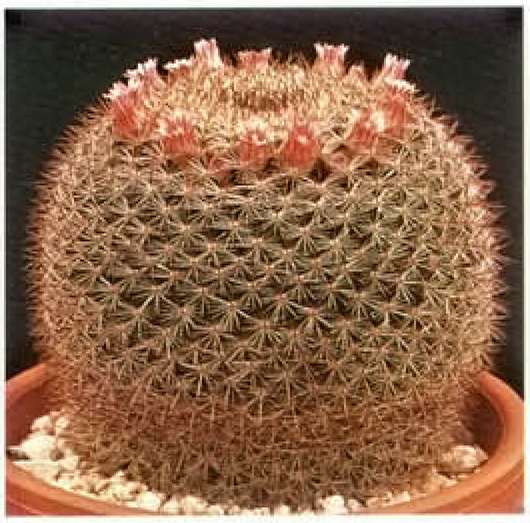
MAMMILLARIA **VOBURNENSIS** Scheer

Also spelt *M. woburnensis.* A clump-forming species with individual stems up to 8in tall, 3¼in in diameter. The angular tubercles are dark green and reddish, with woolly and bristly axils. There are eight to nine white radial spines, ⅕in long, and one to three central spines, white becoming brownish, ⅓in to over ½in long. Summer flowering, and diurnal, the flowers are about ¾in long and are yellow, tinged with red. Needs bright light; normal cactus compost; minimum temperature 55°F. *Guatemala.*



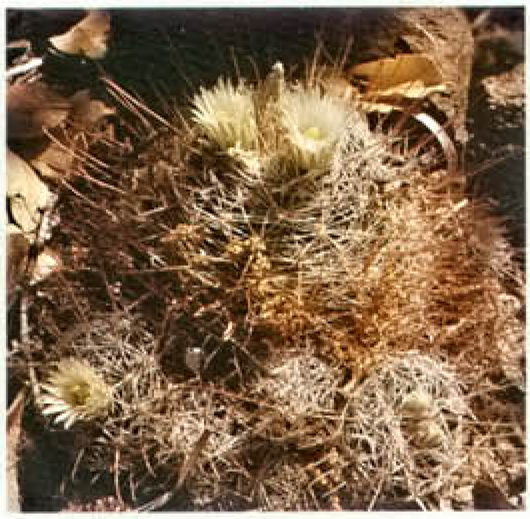
MAMMILLARIA **WEINGARTIANA** Böed.

Globular, clustering plants, each medium-green stem 1½–2in in diameter. The tubercles are somewhat conical, the axils bare. Areoles bear 20–28 white radial spines, ¼–⅓in long and there are one to three centrals, one hooked, which are dark brown, about ½in long. Flowering in mid-summer, and diurnal, the flowers are greenish yellow or pale pinkish with a pale reddish-brown median line to the petals. Requires full sun; normal cactus compost; minimum temperature 55°F. *Mexico (Nuevo Leon).*



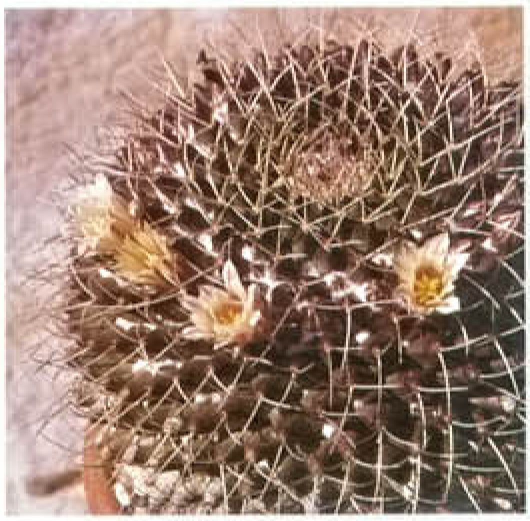
MAMMILLARIA **WIESINGERI** Böed.

A bright-green, globular species, slightly flattened on the top, up to 1½in high, 3¼in diameter. It has slender pyramid-shaped tubercles, and sometimes bristly axils. The 18–20 radial spines are glassy white, very thin, and ⅕–¼in long; the four, sometimes five or six, central spines are reddish brown, and ⅕–¼in long. Summer flowering, and diurnal, the flowers are rose pink with a darker median line, ½in long and across. Requires a fairly sunny position; normal cactus compost; minimum temperature 50°F. *Mexico (Hidalgo).*



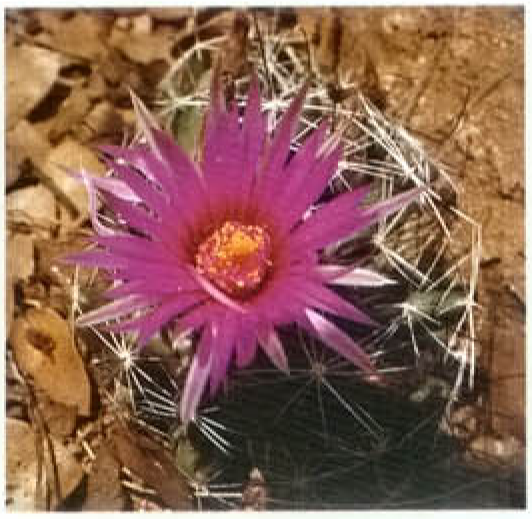
MAMMILLARIA **WILCOXII** Br. & R.

Seemingly close to *M. wrightii* as var. *wilcoxii* Toumey ex K. Sch. Very similar to *M. wrightii.* 20 white, brown-tipped radial spines up to ⅔in long and one to three longer centrals up to 1in in length. Day flowering in summer, the flowers are about 1¼in long, 1½in across, and more or less a pale pinkish purple or yellow. Needs good light; normal cactus compost; minimum temperature 50°F. *USA (Arizona).*



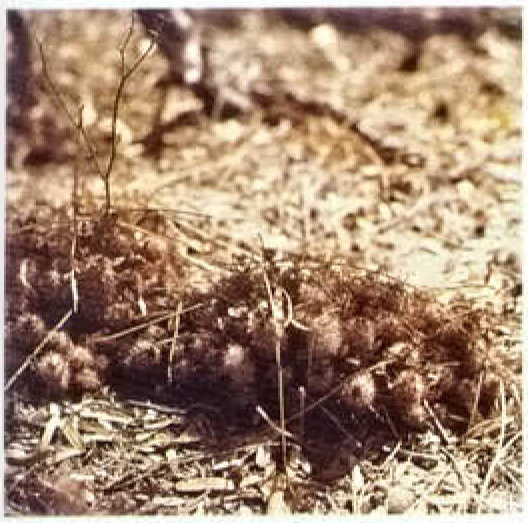
MAMMILLARIA **WINTERAE** Böed. Syn: *Mammillaria zahniana* Böed. & Ritter

The plants are solitary, globular, 8–12in wide. The bluish-green stems have four-angled tubercles, about ¾in long and wide, with white woolly axils. Areoles bear four central spines; gray or reddish, with brownish tips, sideways pointing up to ¾in, the upper and lower around 1in. Summer flowering, diurnal, the flowers are 1in, long, yellow or whitish yellow with a reddish center stripe to the outer petals. Requires very bright light; normal cactus compost; minimum temperature 50°F. *Mexico (Nuevo Leon).*



MAMMILLARIA **WRIGHTII** Engelm.

A short columnar plant, 2–3in in diameter. Stems are solitary, only rarely offsetting. The tubercles are somewhat cylindrical, about ½in long, with bare axils. There are 10–20 white radial spines up to ½in or more long and one to three hooked brown centrals, up to ¾in long. Day flowering, in summer, the flowers are 1in or more long and across and are purple or magenta with pinkish edges. Needs sun; normal cactus compost; minimum temperature 50°F. *USA (New Mexico, Texas, Arizona).*

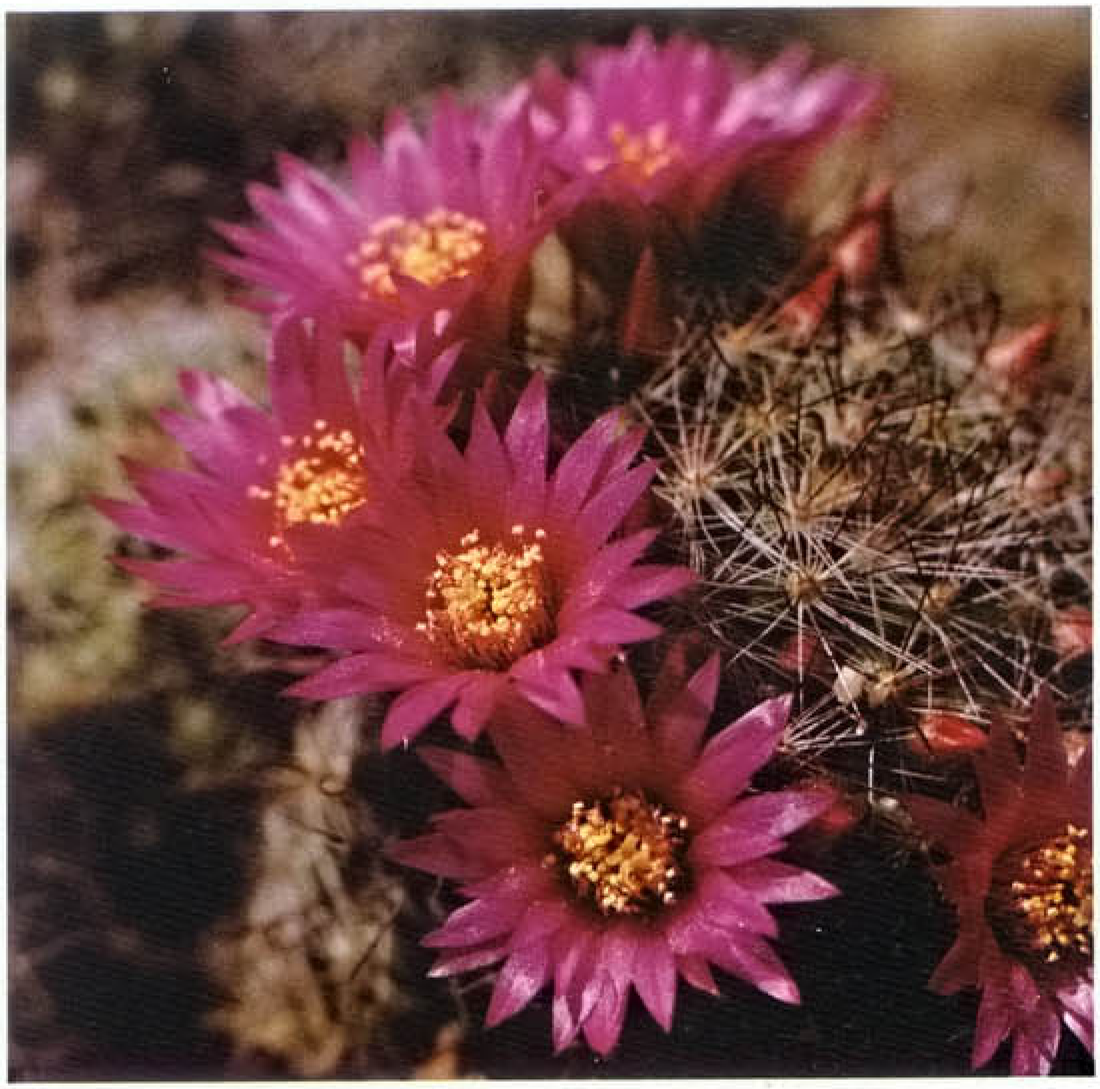


MAMMILLARIA **YAQUENSIS** Craig

Stems are cylindrical up to 3in high, ⅔in thick and clustering freely. They are reddish green, with small conical tubercles and slightly felted axils. Areoles bear 18 white, brown-tipped radial spines, ⅕–¼in long, and one reddish-brown central ¾in long, tipped blackish brown. Flowers are diurnal in summer. These are pale pink with a deeper pink median line, about ¾in long and wide. Requires sun; a porous, enriched mineral compost; minimum temperature 50°F. *Mexico (Sonora).*

MAMMILLARIA **ZACATECASENSIS** Shurly

A dark-green, solitary globular plant 2–4in high and about 3in thick. The tubercles are cylindrical, the axils bare. Areoles bear 20–25 pale-yellowish radial spines ⅒–⅕in long and three to four centrals, yellow with reddish tips, the upper two or three about ½in long, the lower hooked to ¾in. Flowering in summer, and diurnal, the flowers are white or pale pink with a deeper pink median line and throat, up to ¾in long and ¾in wide. Requires bright light; normal cactus compost; minimum temperature 55°F. *Mexico (Zacatecas).*



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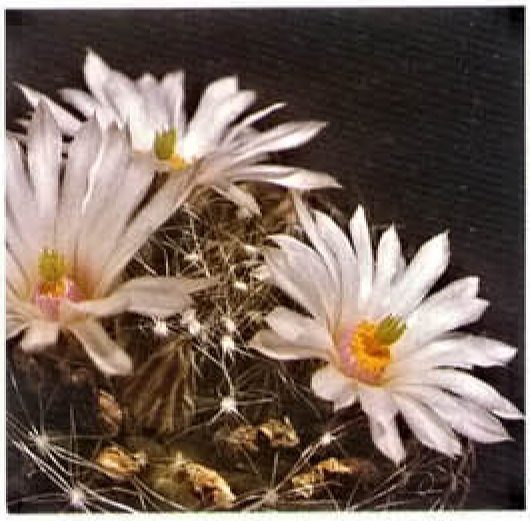
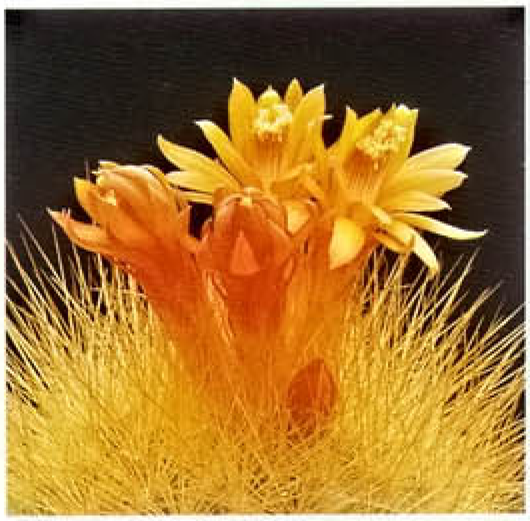
MAMMILLARIA **ZEILMANNIANA** Böed.

A well-known, popular species. The dark-green globular stems are up to 2½in tall, 1¾in wide, readily clustering, with somewhat oval cylindrical tubercles and bare axils. The 15–18 radial spines are white, almost hair-like, and up to ½in long; there are four reddish-brown central spines, one hooked, about ⅓in long. Flowers are about ¾in long, reddish violet, pinkish or white; they appear by day in early to late summer. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Guanajuato).*



MAMMILLARIA **ZEPHYRANTHOIDES** Scheidw.
Syn: *Dolichothele zephyranthoides* (Scheidw.) Backeb.

Solitary, globular up to 3¼in high, 4in thick, and dull green. The tubercles are conical, up to 1in long, the axils bare. There are 12–18 hair-like whitish radial spines to ½in long with one yellowish-brown central to ¾in, hooked. Flowering in summer, it is diurnal, white to yellow flowers with a red center stripe, to 1½in long and across. Requires sun; normal cactus compost; minimum temperature 55°F. *Mexico (Oaxaca, Puebla, Hidalgo, Queretaro).*



MATUCANA **AURANTIACA** (Vaup.) Buxb.
Syn: *Submatucana aurantiaca* (Vaup.) Backeb.; *Borzicactus aurantiacus* (Vaup.) Kimnach & P. C. Hutch.

Dark-green, globular about 6in high and in diameter. It has 16 ribs with elliptical-shaped areoles bearing yellow to reddish-brown spines, consisting of up to 30 radials to 1in in length, and two to four up to 2¼in. Diurnal flowering in late summer, slightly zygomorphic; up to 3½in long, 2–3in across, they are orange-yellow, reddish near the throat. Requires bright light; normal cactus compost; minimum temperature 50°F. *Peru (Cajamarca).*

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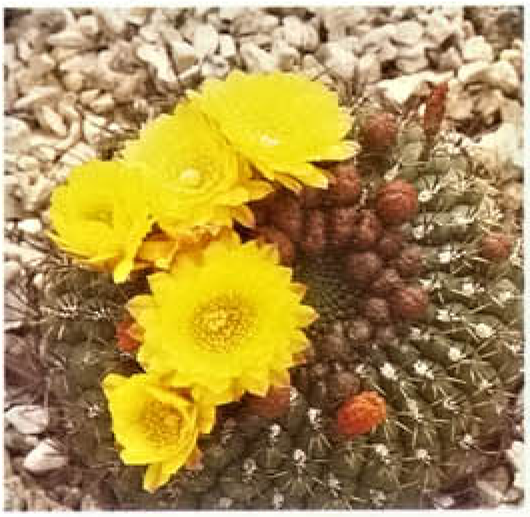

MATUCANA **AUREIFLORA** Ritter
Syn: *Submatucana aureiflora* Backeb.; *Borzicactus aureiflorus* (Ritter) Donald

A variable species. The globular plant has a somewhat flattened top, about 5in in diameter with 11–28 dark grayish-green tubercled ribs. Grayish-white felted areoles bear yellowish-brown spines, deeper brown at the base, of which 8–13 are radials ⅓in to ¾in in length, and one or two are centrals up to 1in. It is summer flowering, and diurnal; flowers are symmetrical, golden yellow and 1–1¾in long. Requires sun; normal cactus compost; minimum temperature 50°F. *Peru (Cajamarca).*

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MATUCANA **KRAHNII** (Donald) Bregman
Syn: *Borzicactus krahnii* Donald

A grayish-green, more or less globular, clustering species, with about 18 ribs divided into prominent, broadly conical tubercles. The areoles are white with dark-brownish spines, about eight radials and one to four centrals, ⅓in to about ½in long, some later reaching 2½–3¼in in length. Day flowering, the flowers, which are slightly zygomorphic, appear in mid-summer. They are deep reddish lilac, 3–3¼in long, to 3in across. Needs sun; normal cactus compost; minimum temperature 64°F. *Peru (Amazonas).*

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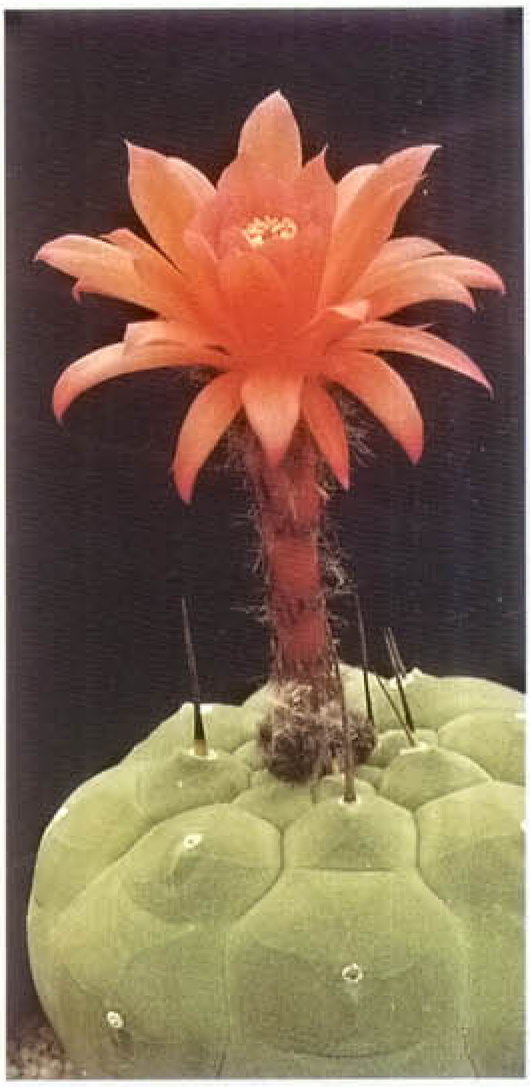
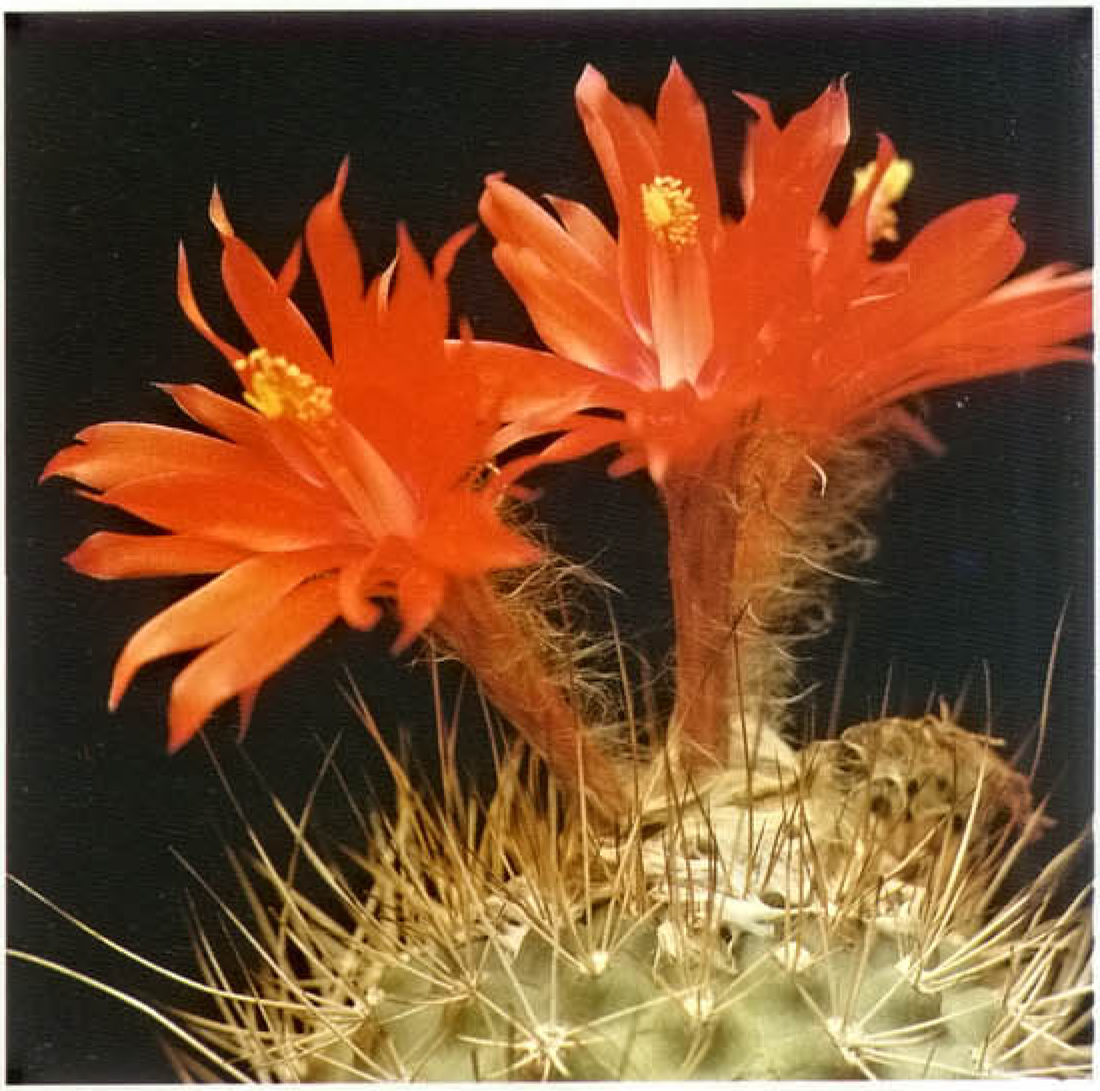
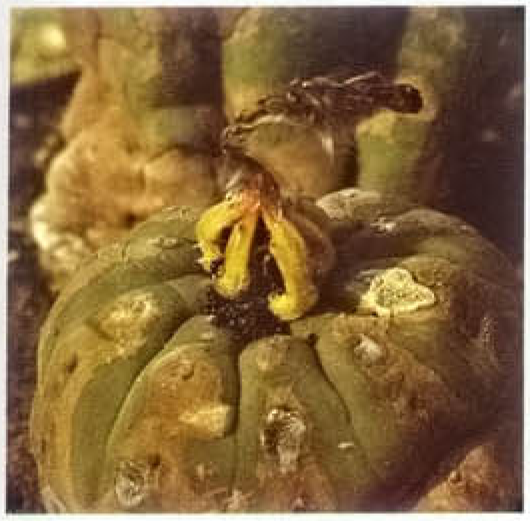
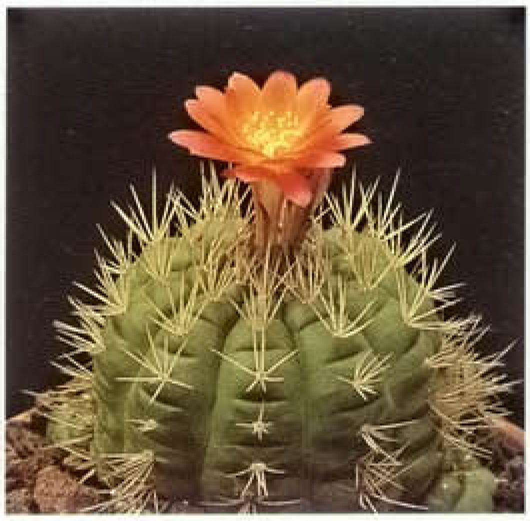






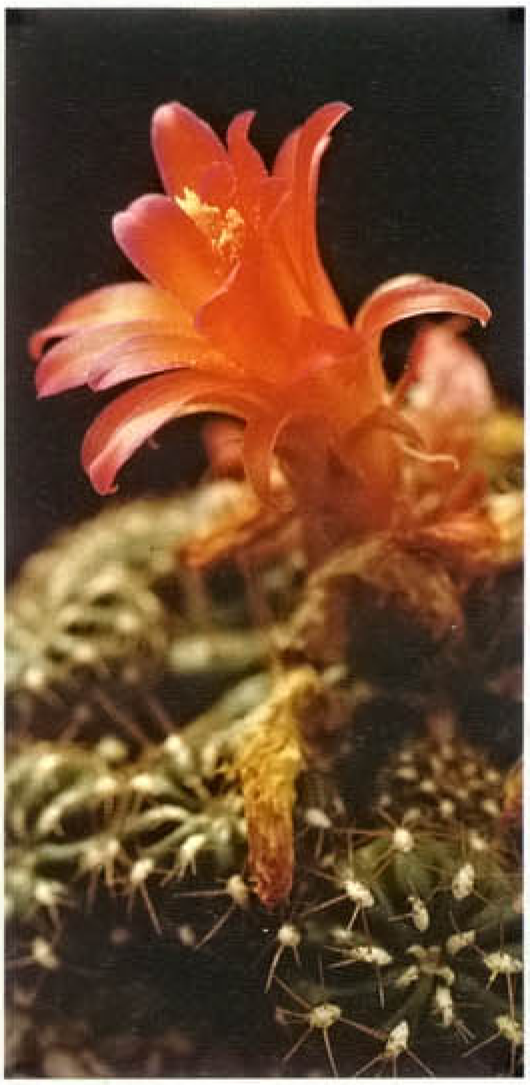
MATUCANA **MADISONIORUM** (P. C. Hutch.) Rowley
Syn: *Submatucana madisoniorum* (P. C. Hutch.) Backeb.; *Borzicactus madisoniorum* P. C. Hutch.

A globular species 3¼in wide, 4in high, dull grayish or bluish green. Seven to twelve ribs with small blackish areoles about ⅒in wide. The reddish-orange flowers, diurnal in mid-summer, are 2½–4in long to 2in across. Older plants discharge black brown seeds from globose fruits. Requires slight shade; normal cactus compost; minimum temperature 64°F. *Peru (Amazonas).*



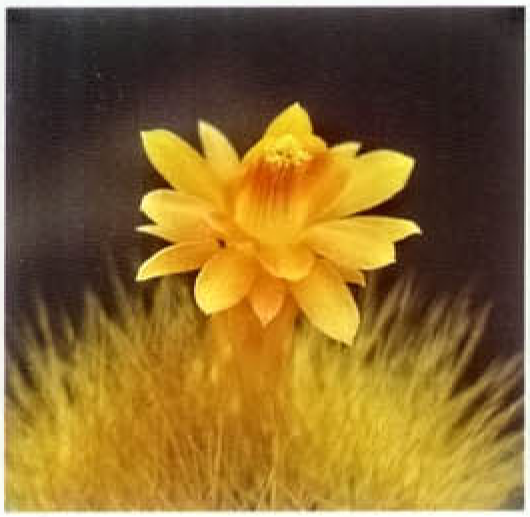
MATUCANA **OREODOXA** (Ritter) Slaba
Syn: *Eomatucana oreodoxa* Ritter; *Borzicactus oreodoxa* (Ritter) Donald

Globular, bright grayish-green plants, sometimes offsetting to form clusters, about 4in in diameter. It has seven to twelve bumpy ribs and very small areoles bear four to twelve yellowish-brown spines which later turn gray, from ⅓in to 1–1½in in length. The flowers are symmetrical, reddish orange with a paler throat, and 1½–2½in long; they are diurnal, appearing in summer. Needs bright light; normal cactus compost; minimum temperature 55°F. *Peru (Ancash).*



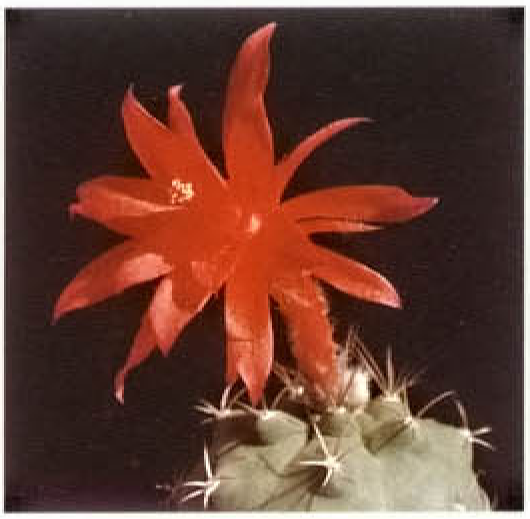
MATUCANA **POLZII** Diers, Donald & Zecher

A globular species, freely ceaspitose. The stems are grass green, about 1½in tall, 2½in wide with nine to sixteen ribs. Areoles bear many golden, needle-like spines to about ¾in in length. It is day flowering in summer and the flowers, which are slightly zygomorphic, are crimson, and 3in long, 2in across. Requires bright light; normal cactus compost; minimum temperature 50°F. *Peru (Huanuco).*



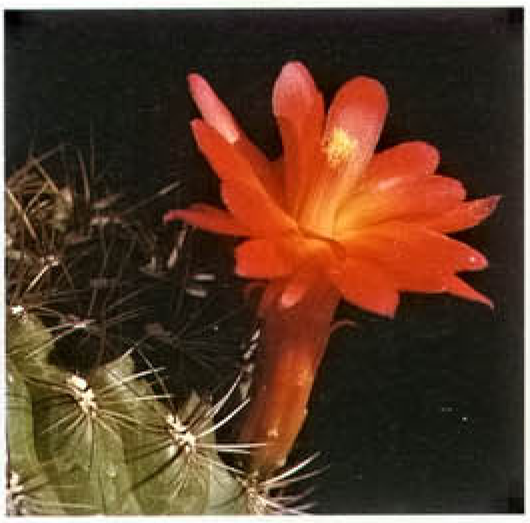
MATUCANA **MYRIACANTHA** (Vaup.) Buxb.
Syn: *Borzicactus myriacantha* (Vaup.) Donald; *Submatucana myriacantha* (Vaup.) Backeb.

Globular, up to 3¼in high, 4in in diameter with about 26 ribs and small felted areoles. The bristly spines are yellow, later brownish or gray, of which 20–30 are radials ¼in to ¾in or more long and about 10 are centrals 1in long. Summer flowering, diurnal; flowers are yellow to pale rose, about 2½in long. Needs a bright position; normal cactus compost; minimum temperature 64°F. *Peru (Amazonas).*



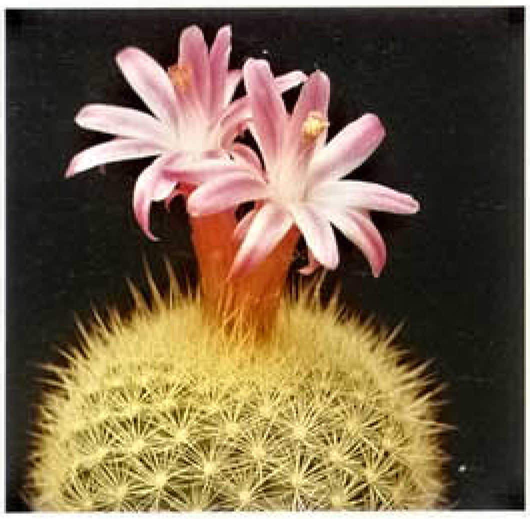
MATUCANA **PAUCICOSTATA** Ritter
Syn: *Submatucana paucicostata* (Ritter) Backeb.

Plants with rather elongated stems up to 5½in high, 3in wide, with seven to twelve ribs and low, cone-shaped tubercles. The spines, at first yellowish brown, later gray, consist of four to eight radials ⅙in to 1in or more long and sometimes one central. Flowers are slightly zygomorphic, about 2½in long, and dark vermilion often edged with violet. Appearing in summer, they are diurnal. Requires good light; normal cactus compost; minimum temperature 50°F. *Peru (Ancash).*



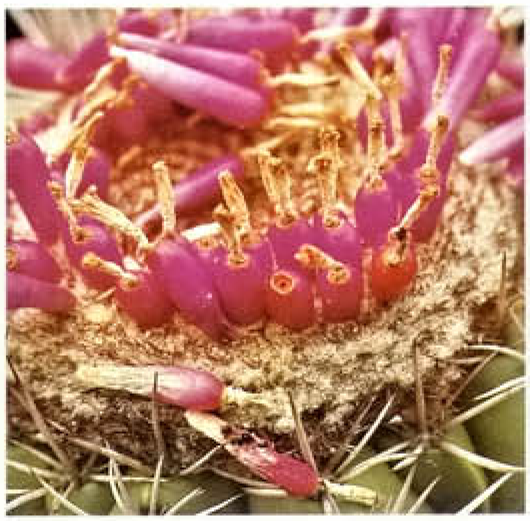
MATUCANA **RITTERI** Buin.
Syn: *Submatucana ritteri* (Buin.) Backeb.; *Borzicactus ritteri* (Buin.) Donald

Flattened globular, plant to about 6in in diameter. Has about 12–22 ribs and longish areoles. The dark-brown, almost black spines are slightly curved. Seven to ten or more radials ½–1in long and one or two or more centrals ¾–1½in in length. Flowers are bright vermilion or orange, about 3½in long, opening to around 2in in diameter in summer, diurnal. Requires bright light; normal cactus compost; minimum temperature 50°F. *Peru (La Libertad).*



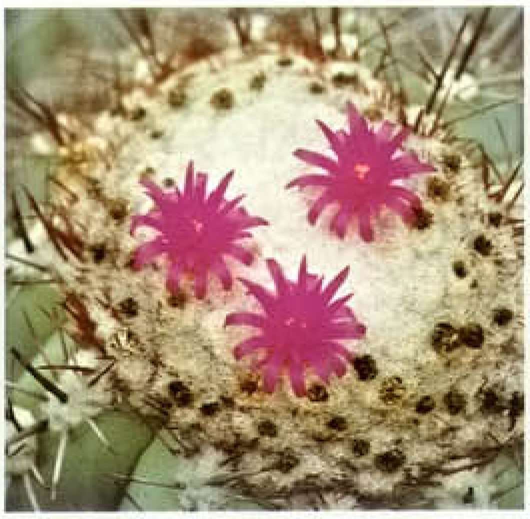
BORZICACTUS **VIOLACEUS** P. C. Hutch

This title is apparently invalid. The plant appears to be one of the several forms of *M. myriacantha*, particularly in respect to flower color, this being the original coloring referred to in the initial description by Vaupel. Requirements are the same as for *M. myriacantha*. *Peru.*



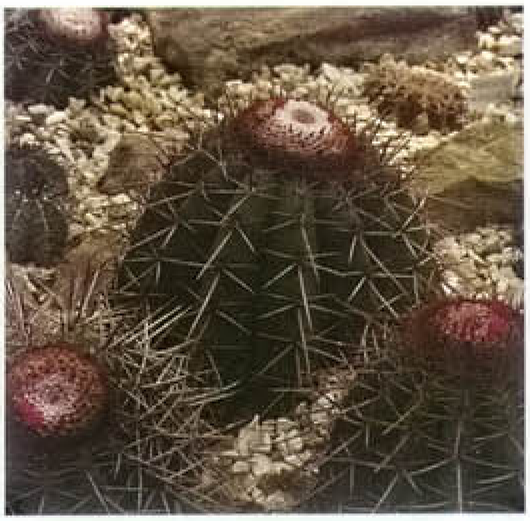
MELOCACTUS **AMETHYSTINUS** Buin. & Bred.
Syn: *Melocactus salinensis* (HU 173) n.

A globular species about 5in high, 7in in diameter. It has nine to thirteen or more ribs with horn-colored spines, about eight of them radials and one prominent central. The cephalium is of white wool with reddish-brown bristles and the carmine-red flowers are followed by similarly colored fruits. It is day flowering in summer. Requires normal cactus compost; a bright sunny position; minimum temperature 64°F. *Brazil (Minas Gerais).*



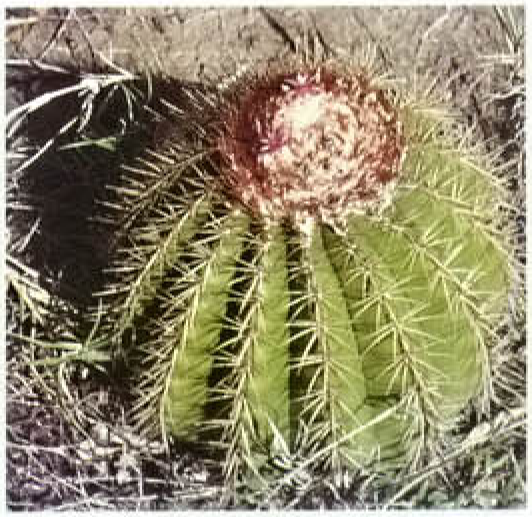
MELOCACTUS **AZUREUS** Buin. & Bred.

A large, grayish blue-green globular species up to about 6in in diameter. It has nine to eleven deeply furrowed prominent ribs. The spines are grayish brown or whitish, consisting of about seven radials, mostly slightly curved, and one straight central. The cephalium is white-haired with red bristles, and bears carmine-red flowers about ⅔in long in summer; these are diurnal. Requires bright sunny conditions; normal cactus compost; minimum temperature 61°F. *Brazil (Bahia).*



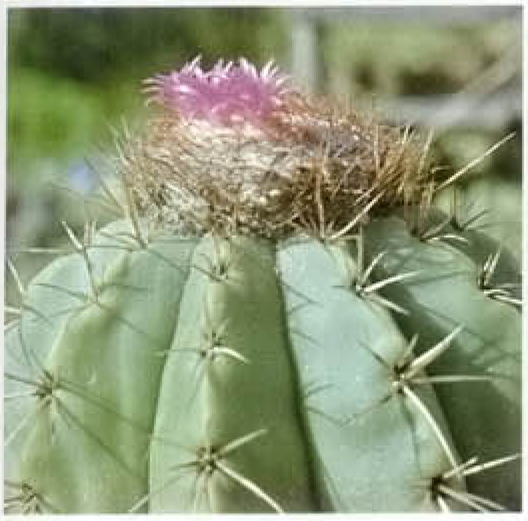
MELOCACTUS **BAHIENSIS** (Br. & R.) Werd.

Dull, dark-green globular plants to about 6in diameter, with 10–12 straight ribs. There are seven to ten brownish-gray radial spines and one, rarely up to four, centrals to about ¾in long. The cephalium is densely bristly with white woolly hairs and bears rose-pink flowers, and often some of a deeper shade, up to ¾in long; these are diurnal, in summer. Requires full sun; enriched mineral cactus compost; minimum temperature 61°F. *Brazil (Bahia).*



MELOCACTUS **BROADWAYI** (Br. & R.) Backeb.

Barrel-shaped to about 8in high, 3–4in diameter. Pale green, they have 14–18 ribs with narrow furrows between. There are eight to ten yellowish-brown radial spines ⅛–½in long and one, rarely two to three, centrals slightly longer. The cephalium, of dense white wool and brown bristles, is up to 2½in diameter and ¾–1in high. Flowers are pale purplish, about ½in across, and are diurnal, in summer. Requires full sun; enriched mineral compost; minimum temperature 61°F. *West Indies (Windward Islands, Tobago).*



MELOCACTUS **CAESIUS** Wendl.

A bluish-green globular plant 4–8in high, 6in thick. It has 10–15 deeply furrowed ribs. The areoles are set about ¾in apart, bearing six radial spines to ¾in long and one central of similar length; these are reddish brown when young, later pale yellowish. There is a white woolly cephalium and brownish bristles which criss-cross, about 2½in wide, and the flowers, diurnal in summer, are dark pink and about ¾in wide. Requires sun; normal cactus compost; minimum temperature 64°F. *Venezuela, Trinidad.*

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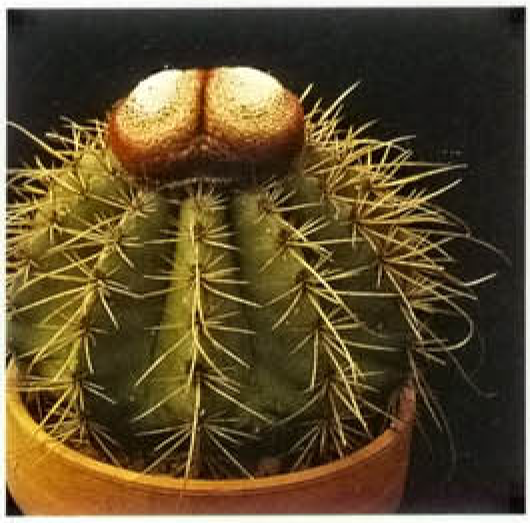

MELOCACTUS **ERYTHRACANTHUS** Buin. & Bred.

The plants are globular to conical and up to about 5in in diameter, dark green, with 11–12 prominent ribs. The large areoles bear seven yellowish-brown radial spines and four longer centrals, all more or less curved and generally ¾–1in long, but the lowest is about 2in in length. Flowering by day, in summer, the flowers are lilac red, about ¾in long and tubular, protruding through the white woolly cephalium. Needs full sun; normal cactus compost; minimum temperature 64°F. *Brazil (Bahia).*

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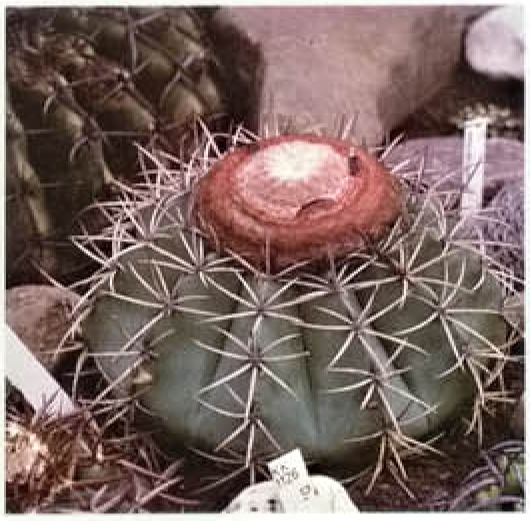

MELOCACTUS **LANSSENSIANUS** Braun

A slightly flattened globular plant, bluish green in color, about 8in in diameter. It has about 14 broadly spaced ribs with areoles bearing six to seven brownish-gray radial spines and one central. The rather low cephalium is of white and brownish wool and the flowers, day flowering in summer, are dark pink. Requires normal cactus compost; full sun; minimum temperature 64°F. *Brazil (Pernambuco).*

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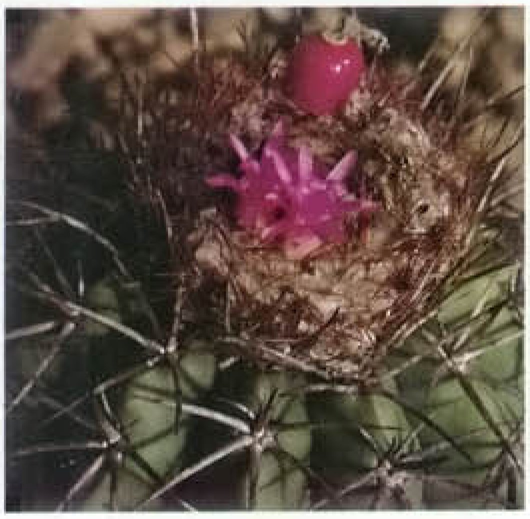

MELOCACTUS **ERNESTII** Vaup.
Syn: *Melocactus uebelmannii* Buin.

A bright-green globular plant 7–8in high and diameter, with 10–12 curved ribs and a woolly cephalium with dark-red bristles. There are 10–15 reddish-brown spines, the upper ones ½–1in, a downward-pointing one to 6in, and the others 1½–3½in in length. Day flowering, in summer, the flowers are violet pink, and up to ¾in long, ½in wide. Requires sun; normal cactus compost; minimum temperature 64°F. *Brazil (Bahia).*

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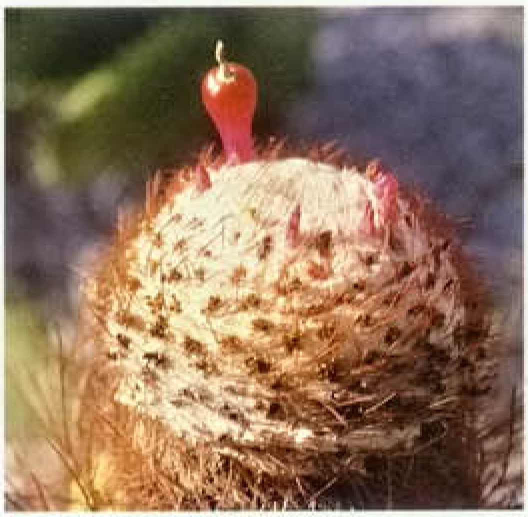

MELOCACTUS **ESTEVESII** Braun

Discovered north of the Amazon River near the border with Venezuela, this is a dull-green, slightly elongated globular species with about 12–14 ribs and many brownish-red, twisted spines. The almost dome-shaped cephalium is of white wool with fine reddish-yellow bristles protruding. The flowers are carmine, appearing by day in summer, followed by typical melocactus seeds. Requires bright light; normal cactus compost; minimum temperature 64°F. *Brazil (Roraima).*

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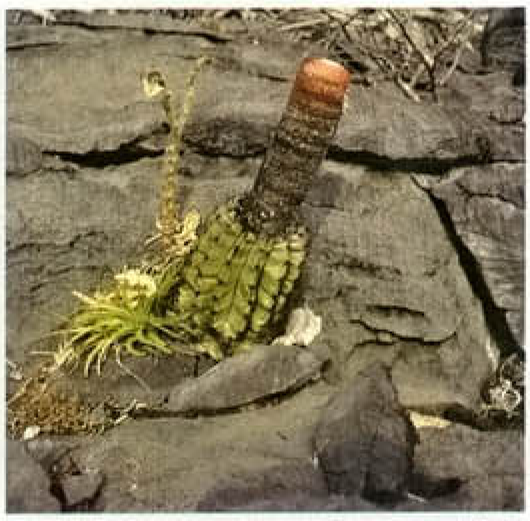

MELOCACTUS **LEVITESTATUS** Buin. & Bred.

Large globular plants to 12in high, 8in diameter with 14–15 ribs. The areoles bear pinkish spines – about 10 radials to 1in long, and two upward-pointing centrals about 1in in length. The cephalium is of white wool and brownish bristles. Flowers are tubular, lilac-violet red, and about ¾in long; they are day flowering in summer. Requires normal cactus compost; full sun; minimum temperature 64°F. *Brazil (Bahia).*

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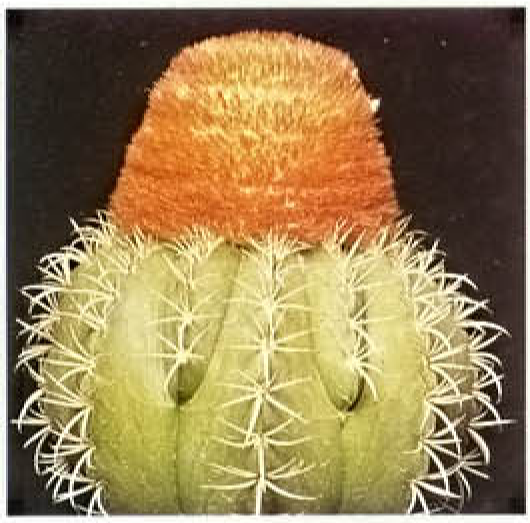
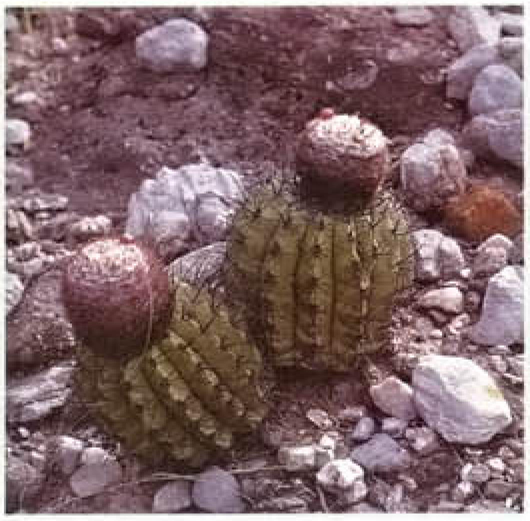


MELOCACTUS **MATANZANUS** Leon

A globular, pale-green plant to 3½in high, 3¼–3½in thick. It has eight to nine straight ribs; often more develop toward the top of the plant. The spines are brownish white or grayish, consisting of seven to eight radials ½–¾in long, and one central to ¾in in length. Densely covered with reddish-brown bristles, the cephalium is 2–2½in wide, to 3½in high, and the flowers are pink, about ¾in long, diurnal after midday in summer. Requires full sun; normal cactus compost; minimum temperature 61°F. *Cuba.*

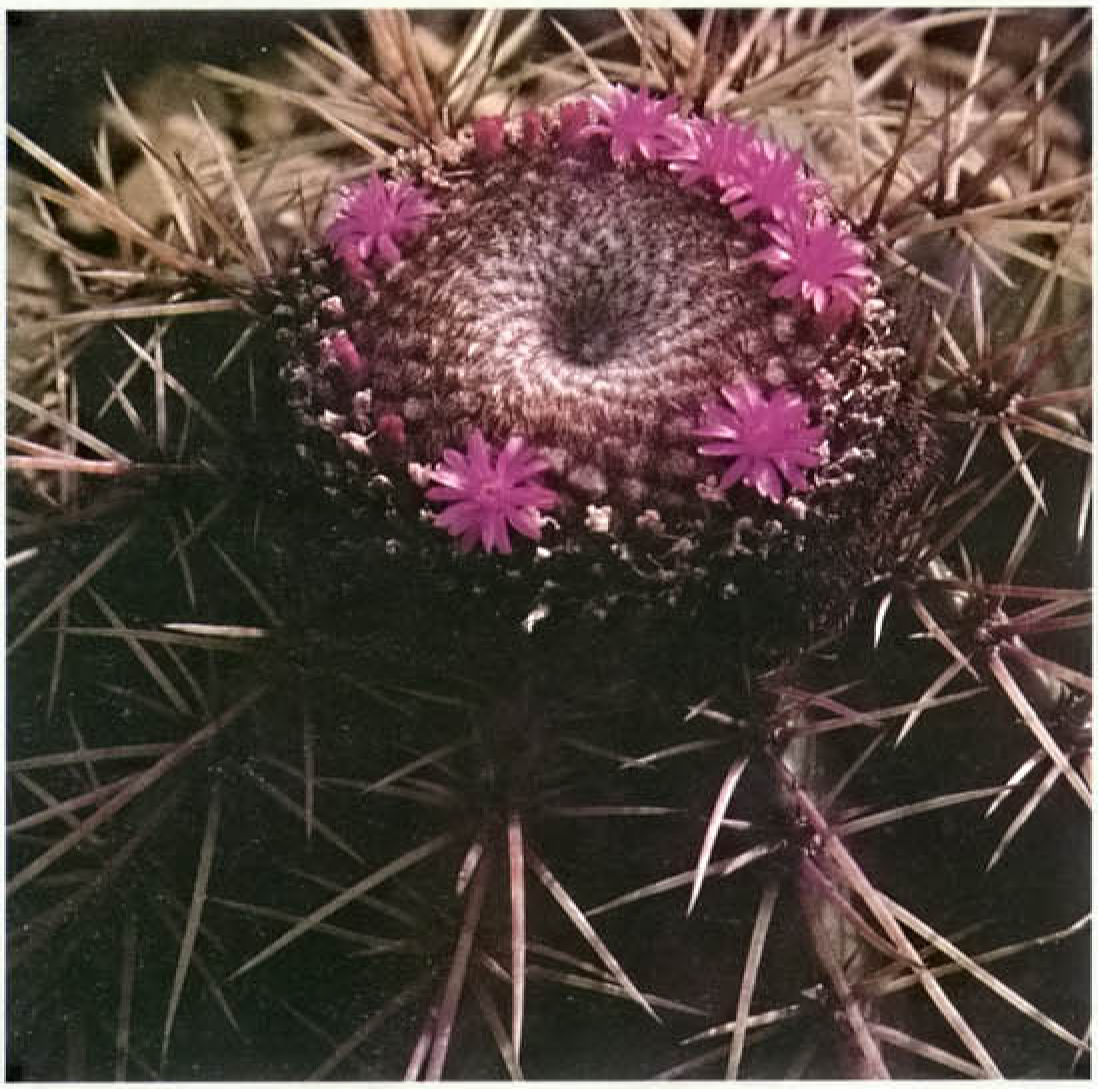


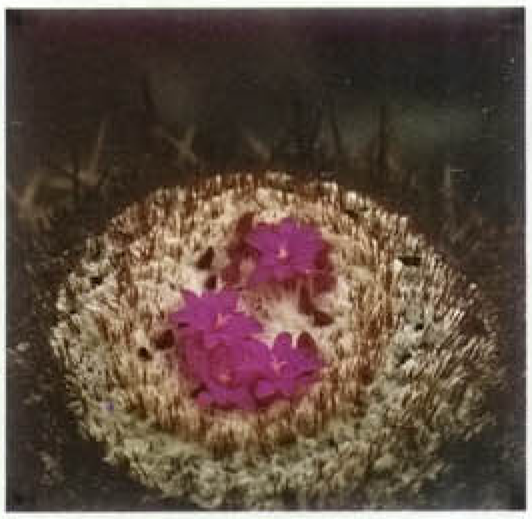
MELOCACTUS **OAXACENSIS** (Br. & R.) Backeb.

A dull-green more or less globular plant, to 6in diameter. It has 11–15 deeply furrowed ribs with areoles set about ¾in apart. There are eight to twelve reddish-brown radial spines to ¾in long, and one longer central. The cephalium is ¾–2in high, with dense brown bristles and a whitish woolly top. Flowers are dark rose and about ¾in long; they are diurnal, in summer. Requires bright sun; slightly calcareous cactus compost; minimum temperature 61°F *Mexico (Oaxaca).*

MELOCACTUS **OREAS ssp. CREMNOPHILUS** (Buin. & Bred.) Braun Syn: *Melocactus cremnophilus* Buin. & Bred.

A green to dark-green species about 5in high and up to 6in diameter with 11–13 ribs. The slightly sunken areoles bear eight to nine reddish-brown, darker-tipped radial spines 1½–2½in long and four centrals up to 1in in length. The cephalium, up to about 5in high, consists of grayish wool and a few bristles. Flowers are carmine red, about ⅔in long, and appear by day in summer. Requires bright light, which is essential; normal cactus compost; minimum temperature 64°F. *Brazil (Bahia).*

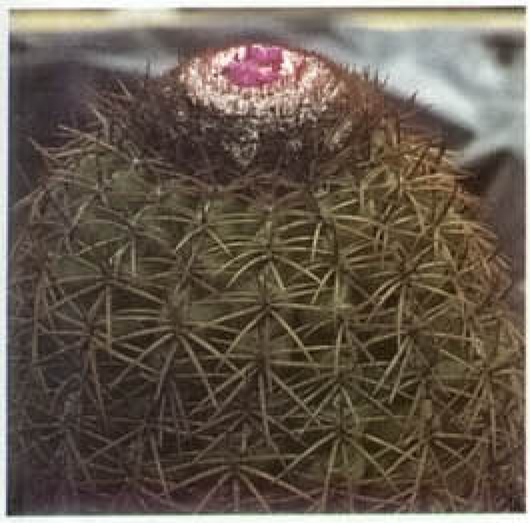




MELOCACTUS **PERUVIANUS var. CANETENSIS** Rauh & Backeb.

A globular plant about 6in diameter with a dense red spiny and white woolly cephalium to 4in high and wide. It has about 16 ribs, with areoles having about 10 yellowish-brown to reddish spines from ½–1½in in length. Flowering in summer, it is diurnal; the flowers are a rich carmine red about ¾in in diameter. Needs full sun; normal cactus compost; minimum temperature 64°F. *Peru (Canete).*

MELOCACTUS



MELOCACTUS **PERUVIANUS** Vaup. **var. LURINENSIS** Rauh & Backeb.

A grayish-green more or less round plant 4in high and in diameter. It has 12–15 ribs with areoles about ⅔–¾in apart and yellowish-brown spines, about 10 radials to ⅔in long and one central slightly longer. The cephalium consists of blackish-brown bristles and white hairy wool. Flowers are carmine red, about ⅓in across, and are diurnal in summer. Requires sun; normal cactus compost; minimum temperature 61°F. *Peru.*

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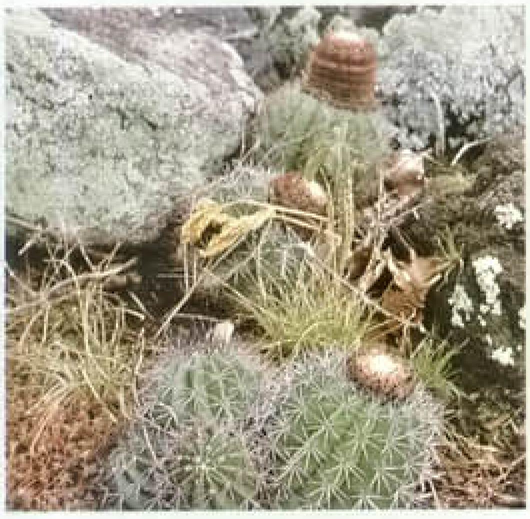

MELOCACTUS **RORAIMENSIS** Braun & Esteves

A very recent discovery in the Amazonian jungle during 1989. This species is a bright-green globular plant with about 16 straight ribs, seven to eight grayish radial spines and one or two centrals. The cephalium consists of white wool and brown bristles, and the flowers are reddish; they are day flowering in summer. Needs very bright light; normal cactus compost; minimum temperature 64°F. *Brazil (Roraima).*

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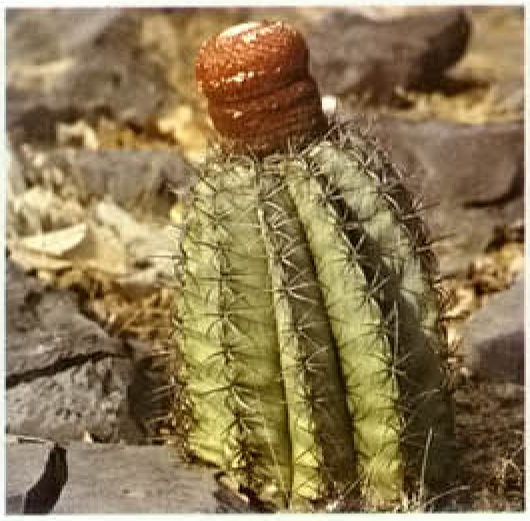

MELOCACTUS **WARASII** Pereira & Bueneker

One of the largest species within the genus: plants have been discovered over 3ft tall. The grayish-green or bluish-green elongated stem has 12 prominent ribs, brownish-gray spination and a brownish-red cephalium. The flowers are reddish pink, and are day flowering in summer. Needs full sun; normal cactus compost; minimum temperature 64°F. *Brazil (Western Bahia).*

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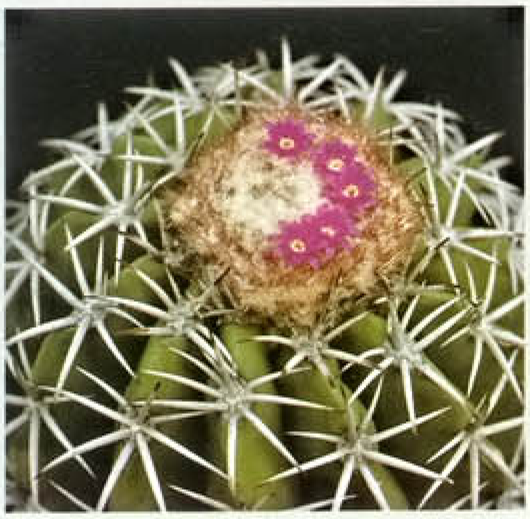

MELOCACTUS **ZEHNTNERI ssp. CANESCENS** (Ritter) Braun
Syn: *Melocactus canescens* Ritter

A somewhat short, cylindrical plant, often globular, with about 15 ribs. There are about seven brownish-gray radial spines and one central and the cephalium consists of white wool and reddish bristles. Day flowering, in summer, the blooms are carmine. Requires normal cactus compost; sunny location; minimum temperature 64°F. *Brazil (Bahia).*

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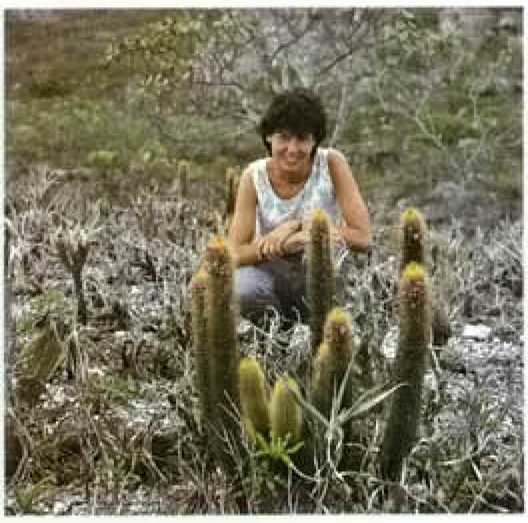
MICRANTHOCEREUS



MICRANTHOCEREUS **AURI-AZUREUS** Buin. & Bred.

A clustering columnar plant of bluish green densely covered with yellowish spines. The stems reach over 3ft in length, 2½–3in in diameter and have 15–18 ribs. The numerous radial spines are ½–¾in long, and there are about six centrals 1–3¼in in length. Flowers are cylindrical, overall 1in long, with lilac-pink inner petals. They are night flowering in summer. Needs full sun; normal cactus compost; minimum temperature 55°F. *Brazil (Minas Gerais).*

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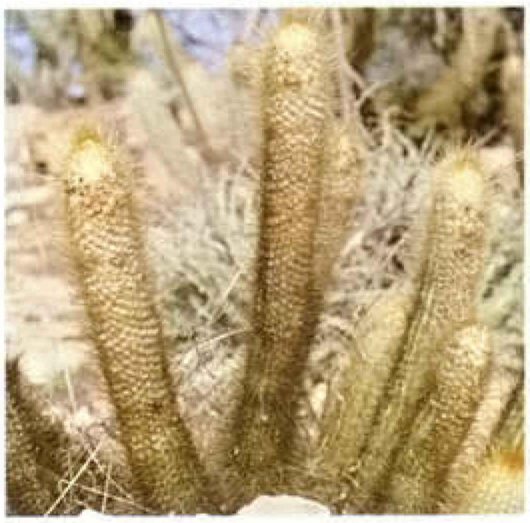
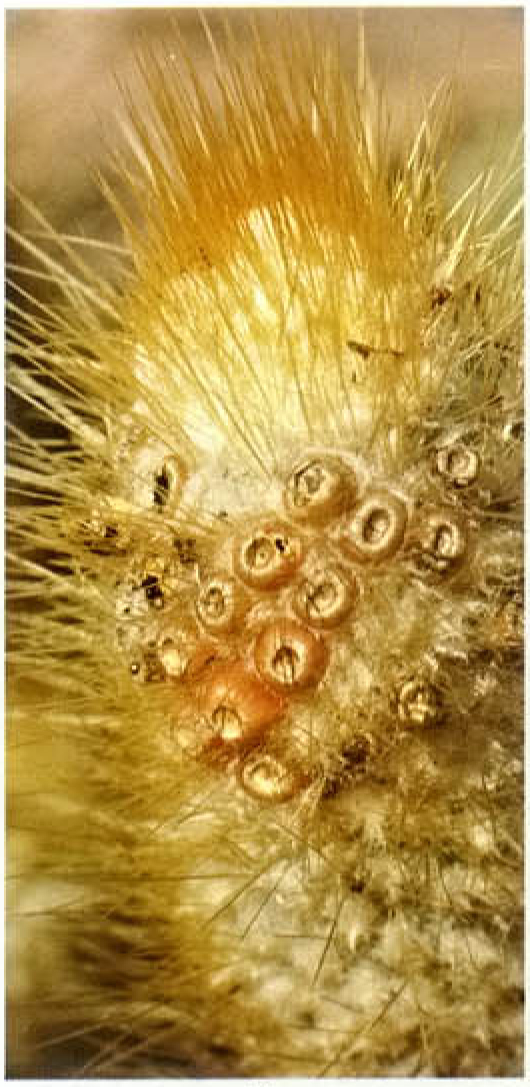
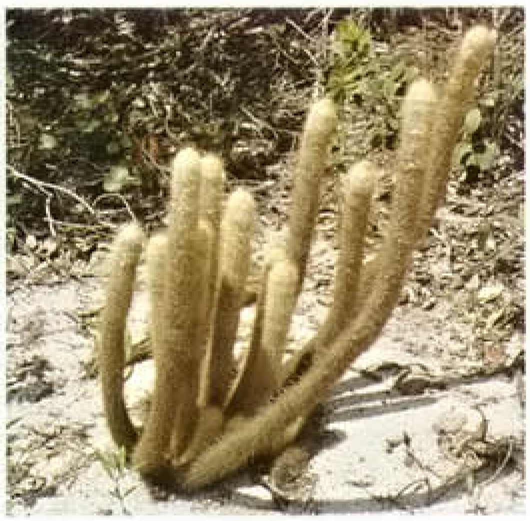
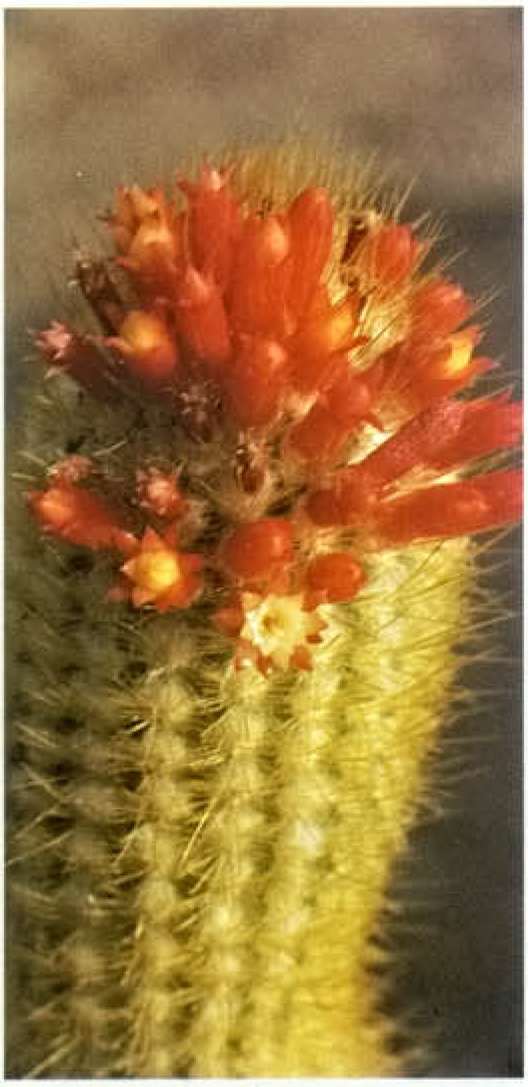




MICRANTHOCEREUS **DENSIFLORUS** Buin. & Bred.

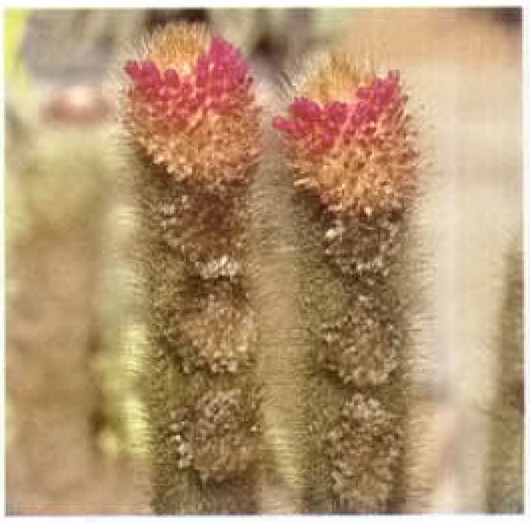
Columnar, clustering from the base, 12–20in high, 2in thick, and bluish green. The 15 ribs have close-set areoles, woolly when young. The yellow spines consist of fine radials ¼–⅓in long and about eight centrals, ⅓in long. The cephalium is composed of yellowish wool and long yellowish to reddish-brown spines and bristles. Flowers from the cephalium in summer, nocturnal, somewhat cylindrical, ¾in long, ⅕–¼in wide. Requires sun; normal cactus compost; minimum temperature 55°F. *Brazil (Bahia).*





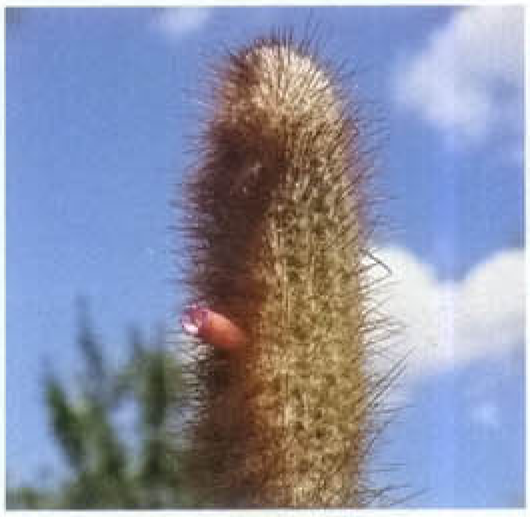
MICRANTHOCEREUS **POLYANTHUS** (Werd.) Backeb.

A columnar, branching species up to 4ft tall. The bluish-green branches, 2–2½in in diameter, have 15–20 ribs and the yellowish-white areoles bear 20–30 yellowish radial spines ⅕ to ½in in length and three or more yellowish-brown centrals up to 1in long. Flowers appear from a pseudocephalium almost at the tip of the stems in summer. They are nocturnal, and are usually profuse, rose red with often paler inner petals, and about ¾in long. Requires bright light; normal cactus compost; minimum temperature 55°F. *Brazil (Bahia).*



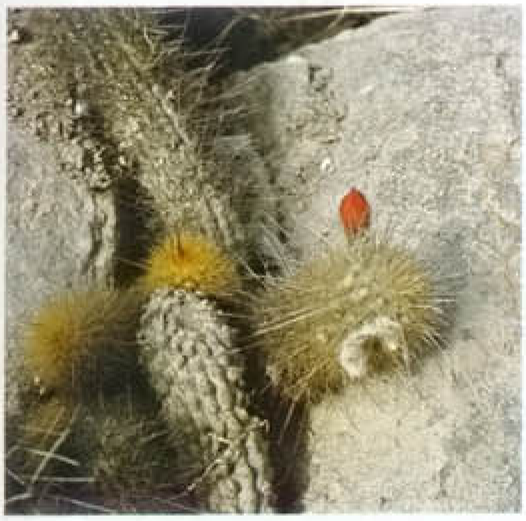
MICRANTHOCEREUS **STRECKERI** van Heek & van Criekinge

A fairly recent discovery from Seabra. The plant is of long columnar growth, with dull-bluish-green stems and many close-set ribs, yellowish-brown spines and lateral cephalium. Night flowering in summer, the blooms are almost purple, many appearing at one time from the yellowish bristly cephalium. Needs full sun; normal cactus compost; minimum temperature 55°F. *Brazil (Bahia).*



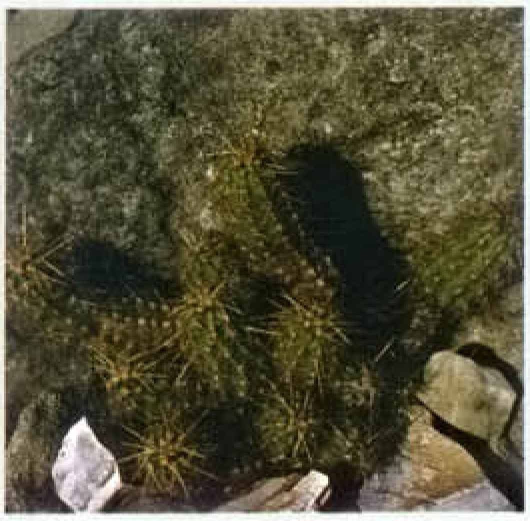
MICRANTHOCEREUS **VIOLACIFLORUS** Buin.

A bushy, columnar plant to about 3ft high with stems up to 1½in in diameter. It has 14–16 ribs, with whitish or brownish hairy areoles. There are 20–25 or more radial spines and one central; these are reddish-brown, about ¾in in length. Flowers are borne laterally from a pseudocephalium of white to brownish wool in summer, and are nocturnal. They are ¾in long, with bluish-violet inner segments and are orange violet externally. Requires sun; normal cactus compost; minimum temperature 64°F. *Brazil (Minas Gerais).*



MILA **CAESPITOSA** Br. & R.

A short cylindrical-stemmed, group forming species. Individual stems are 4–6in tall, green or grayish-green, and ¾–1in thick with about 10 ribs. Areoles bear about 20 or more yellowish or brownish-tipped white spines up to ½in long and one to three centrals up to 1in. It is day flowering in summer; the flowers are yellowish or reddish yellow, and about ¾in long, 1in wide. Requires full sun; enriched mineral-based compost; minimum temperature 50°F. *Peru.*



MILA **FORTALEZENSIS** Rauh & Backeb.

A grayish-green, somewhat globular plant, often forming clusters. Individual stems are up to 4in long with 11–13 ribs. The round, yellowish areoles have nine to twelve bristle-like radial spines and up to four centrals up to ½in long. Flowering in summer, the plant is diurnal. The satiny-yellow flowers are about 1¼in long, ¾in across. Requires bright sun; normal cactus compost; minimum temperature 50°F. *Peru.*

MILA **NEALEANA** Backeb.

A pale-green, clustering species with stems 12–17in long, 1in thick, often prostrate. It has 11–13 ribs resolved into tubercles. The white or yellowish areoles are felted and bear 12–30 fine bristly, brown-tipped white radial spines and one to six centrals, one downward pointing and up to ¾in in length. Day flowering in summer, the flowers are pale to bright yellow, and 1¼in long, ¾in across. Requires full sun; normal cactus compost; minimum temperature 50°F. *Peru.*

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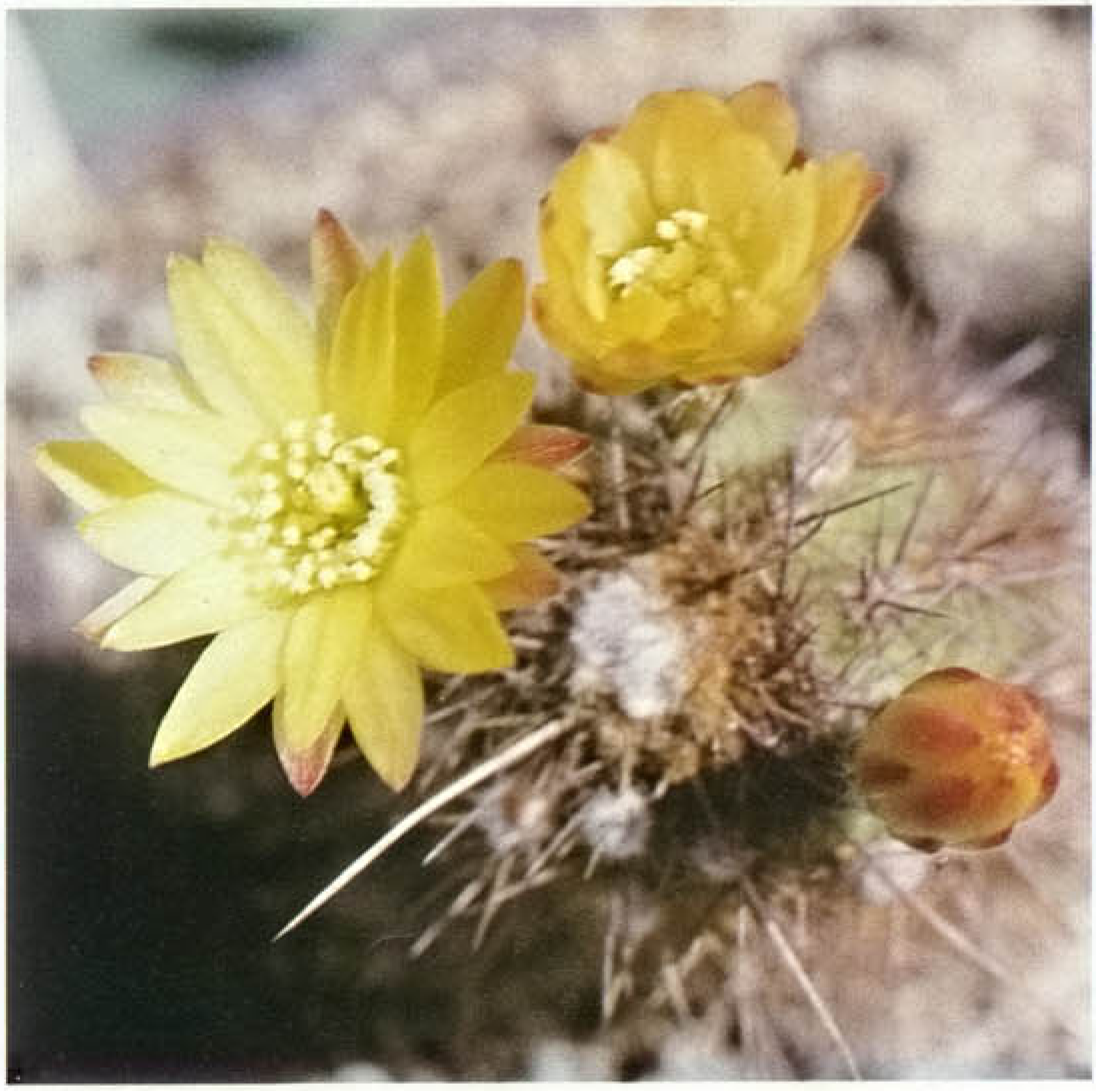

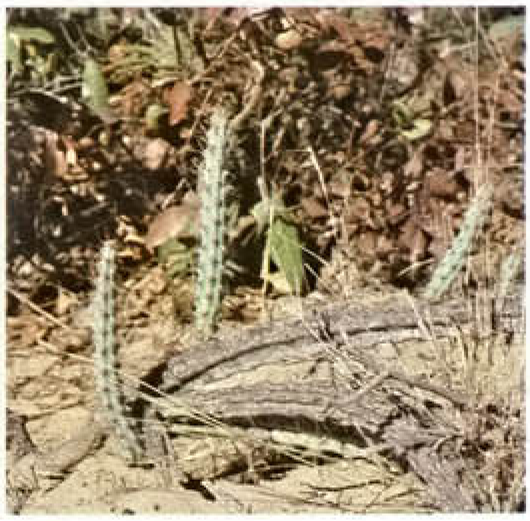

MIRABELLA **MINENSIS** Ritter

This appears to belong more properly to *Monvillea.* It is a bluish-green columnar plant of semi-prostrate habit with three to five ribs and areoles about ⅕in in diameter set at intervals of ¾–1¼in and bearing three to six spines about 1in long. The flowers have a somewhat hairy receptacle, and are whitish; they appear by night in summer. Requires bright light; slightly calcareous cactus compost; minimum temperature 55°F. *Brazil (Minas Gerais).*

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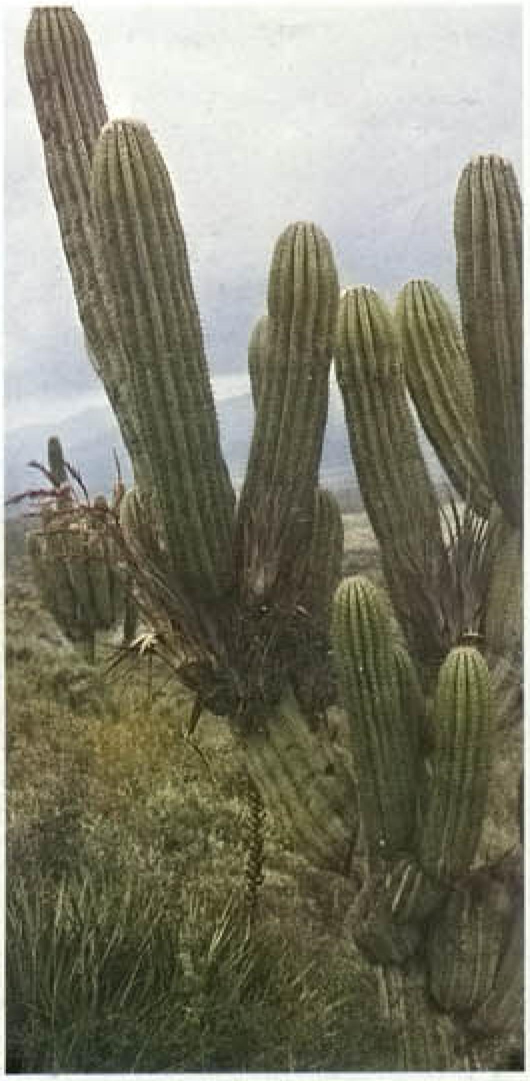

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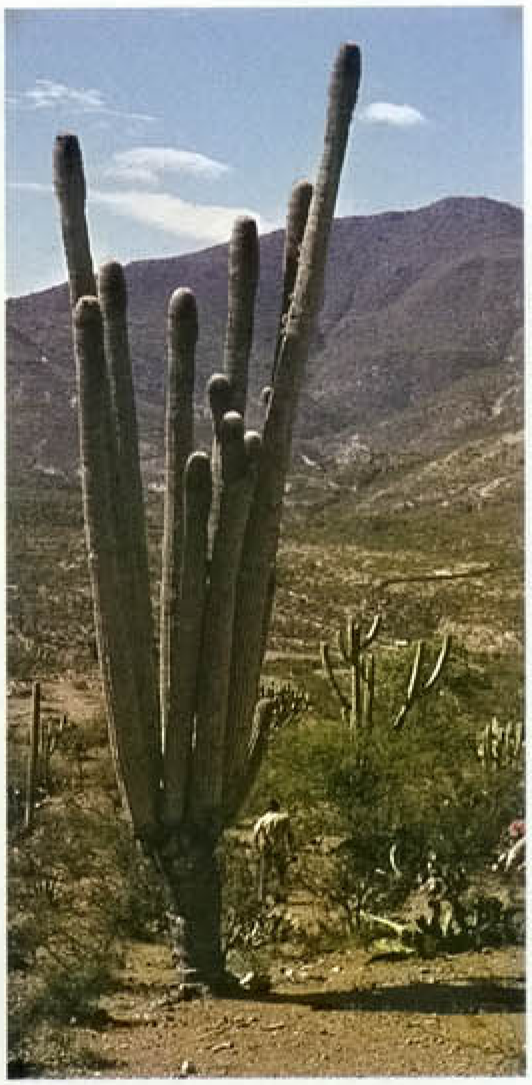
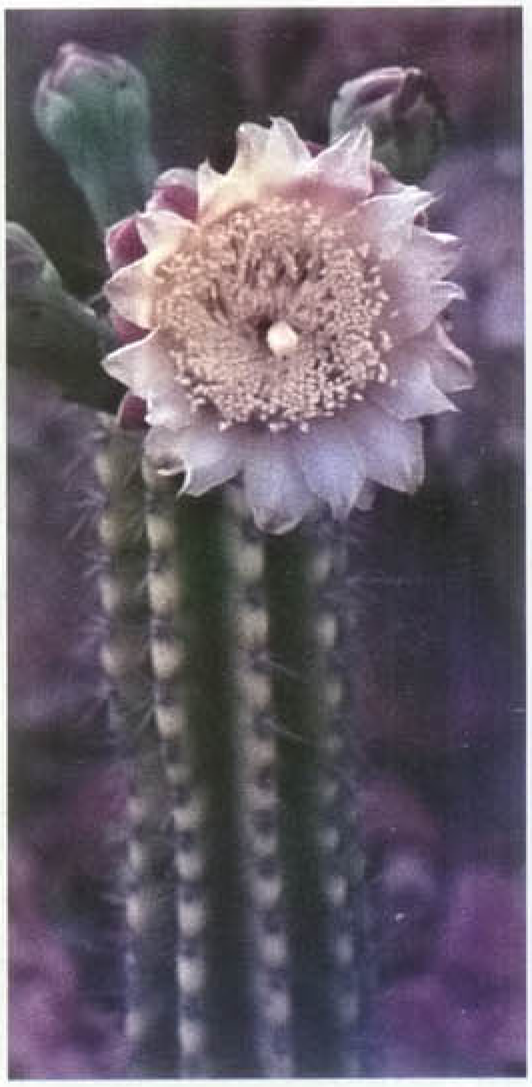
MITROCEREUS FULVICEPS (Weber) Backeb.
Syn: *Mitrocereus chrysomallus* (Br. & R.) Backeb.; *Pseudomitrocereus fulviceps* (Weber) Bravo & Buxb.

Columnar up to 59ft tall, branching from the base. The stems are 5–12in across, with 11–14 ribs, with large brownish areoles about ¾in apart. The spines are brown, later gray. Eight to twelve are radials, to 1in long, usually three centrals, one up to 5in in length. Summer-flowering, at night; flowers are about 3¼in long and creamy white. Needs a bright sunny position; normal cactus compost; minimum temperature 55°F. *Mexico (Puebla, Oaxaca).*



MITROCEREUS RUFICEPS (Weber) Backeb.
Syn: *Neobuxbaumia macrocephala* Daws.

Tall, tree-like plants reaching 50ft high in their habitat, and branching from the main stem which is about 16in in diameter. There are about 26 ribs with areoles bearing eight to ten reddish radial spines about ½in long, and one to three centrals 1½–2in long, all eventually turning grayish. Flowers, which occur in summer and are nocturnal, are produced from the top of the branches; they are pinkish white and bell-shaped, about 2in long. Requires full sun; normal cactus compost; minimum temperature 55°F. *Mexico (Puebla, Tehuacan).*



MONVILLEA CAMPINENSIS (Backeb. & Voll.) Backeb.
Syn: *Praecereus campinensis* Backeb. & Voll

A tall, slender, semi-erect columnar species reaching to about 15ft tall; the bluish-green branches are about 2½in wide. It has seven to nine ribs with gray-felted areoles and seven to eleven gray spines up to ⅔in long. Flowering by night in summer, the blooms are greenish white, about 4in long, 2½in across. Requires free watering in summer; slight shade; normal cactus compost; minimum temperature 50°F. *Brazil (São Paulo).*

MONVILLEA

MONVILLEA **SPEGAZZINII** (Weber) Br. & R.
Syn: *Cereus spegazzinii* Weber

A bushy, semi-climbing or trailing plant with dark bluish-green, grayish marbled stems up to 9ft 8in long and ¾in thick. The three to five ribs have areoles set on prominences ¾–1½in apart carrying three to five black radial spines up to ⅕in long and rarely one longer central, also black. Flowering at night in mid-summer, the flowers are pinkish-white with white inner petals and reddish-pink outer segments, up to 5in long. Fruits red. Needs a bright position; normal cactus compost; minimum temperature 50°F. *Paraguay.*

× MYRTGEROCACTUS

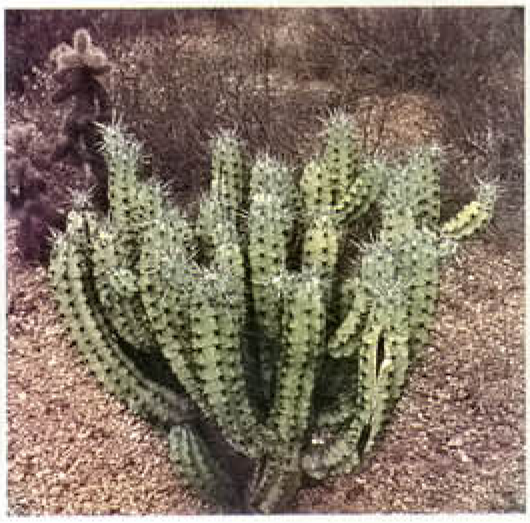
× MYRTGEROCACTUS **LINDSAYI** Moran

Considered a hybrid of *Myrtillocactus cochal* and *Bergerocactus emoryi*. This is an interesting hybrid plant up to 8ft tall. It is dark green and densely covered with golden-yellowish brown spines. Stems are up to 2in in diameter with 11–13 ribs and areoles bearing numerous spines, ½–1in long. The flowers, diurnal in mid-summer, are yellow, 1in long and wide. Requires full sun; normal cactus compost; minimum temperature 55°F. *Mexico (Baja).*

× MYRTILLENOCEREUS

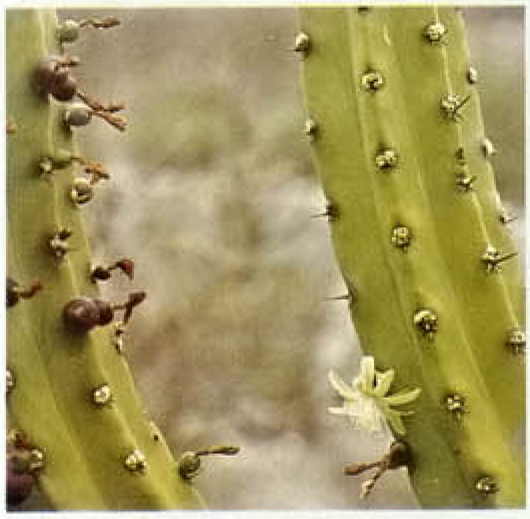
× MYRTILLENOCEREUS **HYBRIDUS**

The inter-generic title established by Rowley is that of an unnamed natural hybrid discovered by Charles Glass, a result of *Stenocereus dumortieri* crossed with *Myrtillocactus geometrizens*. The tall, erect, bluish-green stems have six to seven prominent ribs with grayish areoles bearing a few brownish radial spines and one or more longer centrals. Flowers appear by day in early summer; they have pale rose-pink reflexed petals and a prominent yellowish style and stamens. Requires full sun; normal cactus compost; minimum temperature in winter 50°F. *Southern Mexico.*



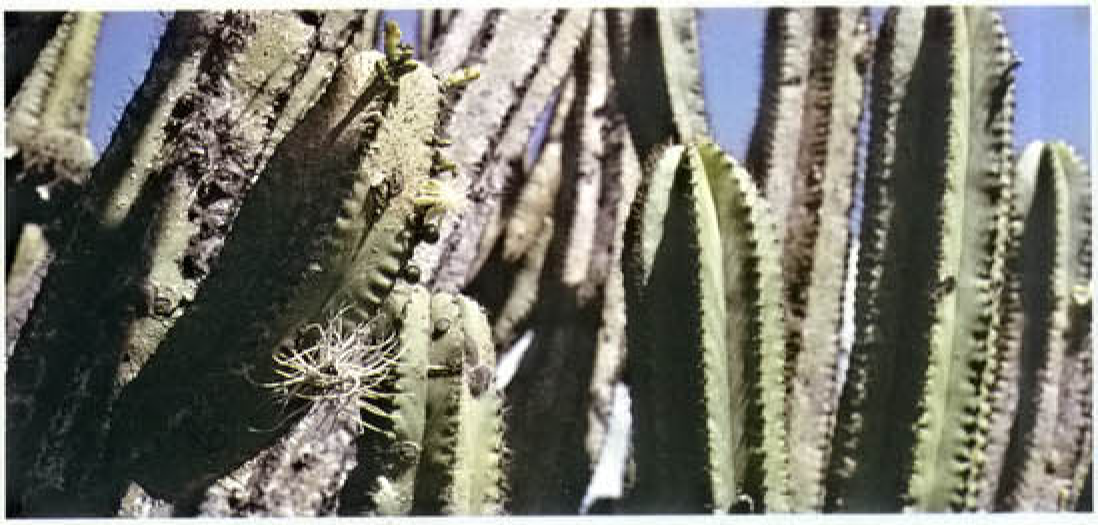
MYRTILLOCACTUS **COCHAL** (Orc.) Br. & R.
Syn: *Cereus cochal* Orc.

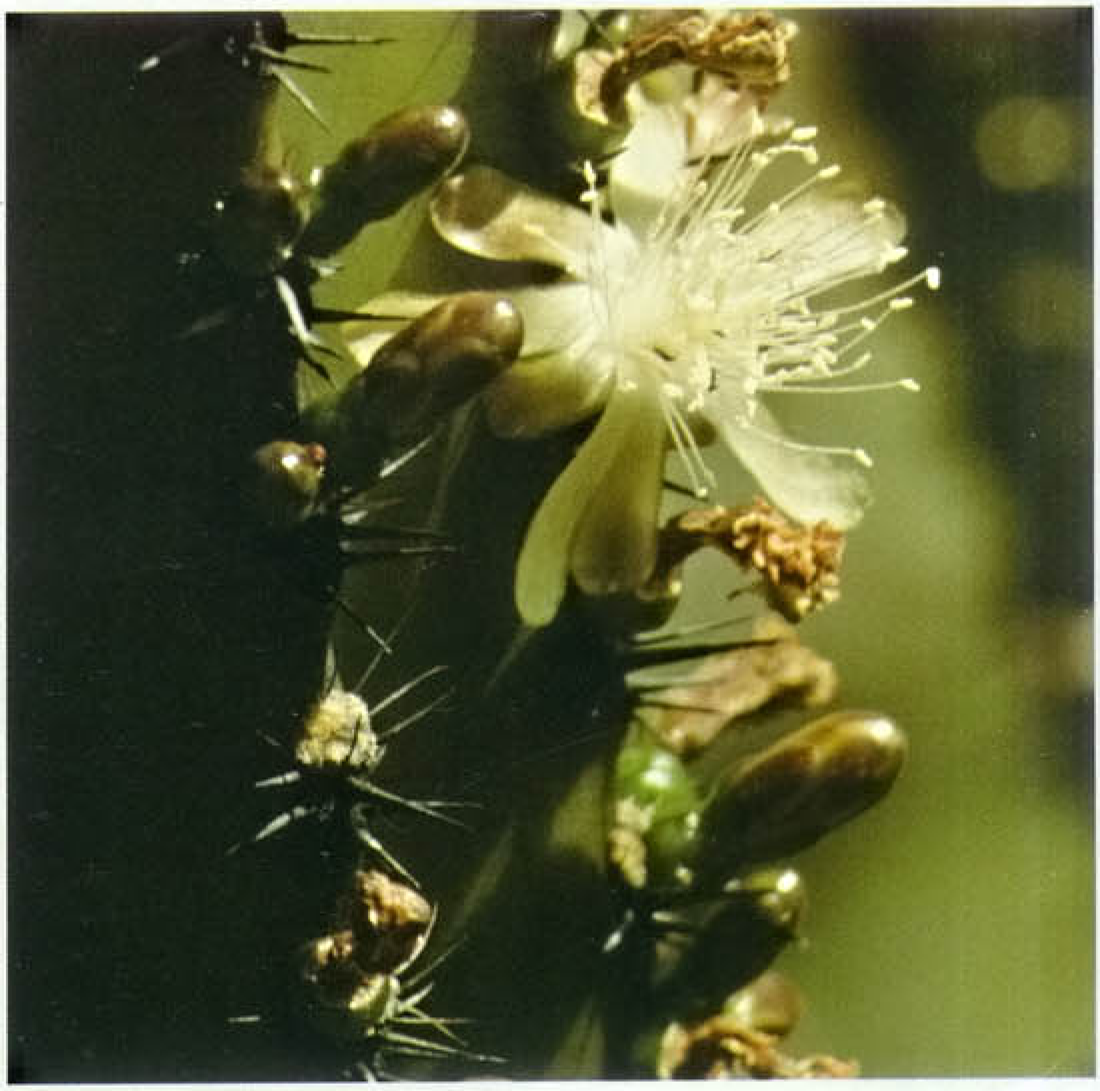
A branching species with a short trunk, 3–10ft tall, the trunk 6in or more in diameter, generally bluish-green in color. It has six to eight shallow-grooved ribs with five grayish or black radial spines about ⅓in long, and sometimes one central to ¾in. Flowers are both diurnal and nocturnal, and bloom in early summer. They are about 1in long and across, white tinged with green or purple. Requires a bright sunny position; normal cactus compost; minimum temperature 50°F. *Mexico (Sonora, Baja).*



MYRTILLOCACTUS **GEOMETRIZANS** (Mart.) Cons.
Syn: *Cereus geometrizans* Mart.

A tree-like species up to 13ft high with a central stem branching from just above ground level. The stem and branches are bluish to dull green, and there are five to six smooth and rounded ribs with large areoles bearing a few short brownish or black radial spines ⅕in or more long, and one central 1–2in or more in length. Flowers whitish, diurnal, produced in early summer from upper areoles and are up to 1⅓in across. Requirements are the same as for *M. cochal*. *Mexico (Central) to Guatemala.*





MYRTILLOCACTUS **SCHENCKII** (Purp.) Br. & R.
Syn: *Cereus schenckii* Purp.

A tree-like species up to 13–15ft high with a very short trunk and deep-green ascending branches to about 4in thick. It has seven to eight ribs and close-set, black areoles with six to eight small blackish radials, and one longer brownish central up to 2in in length. Flowering in summer, the flowers are diurnal, with whitish inner petals, and brownish white externally, about 1½in across. Requires full sun; normal cactus compost; minimum temperature 55°F. *Mexico (Puebla, Oaxaca).*

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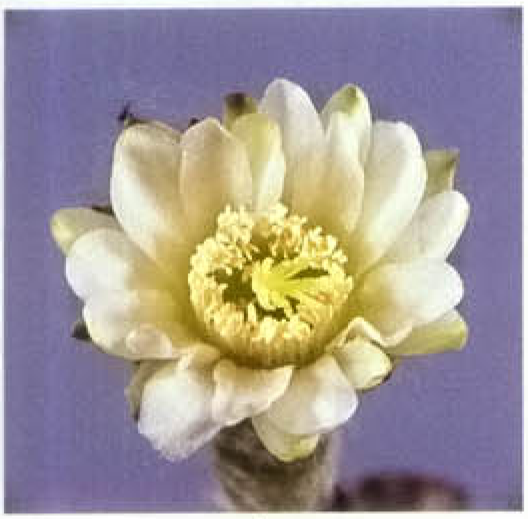
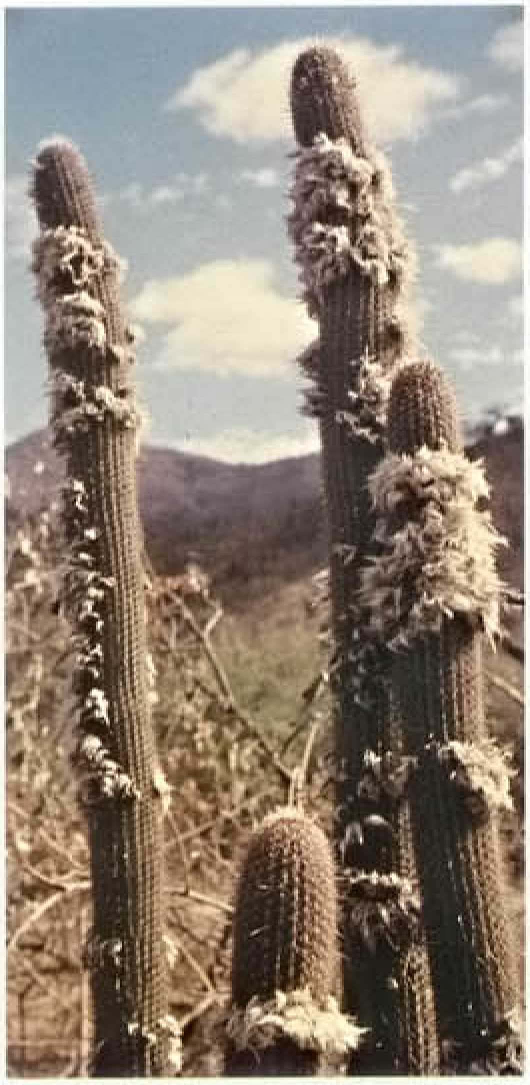
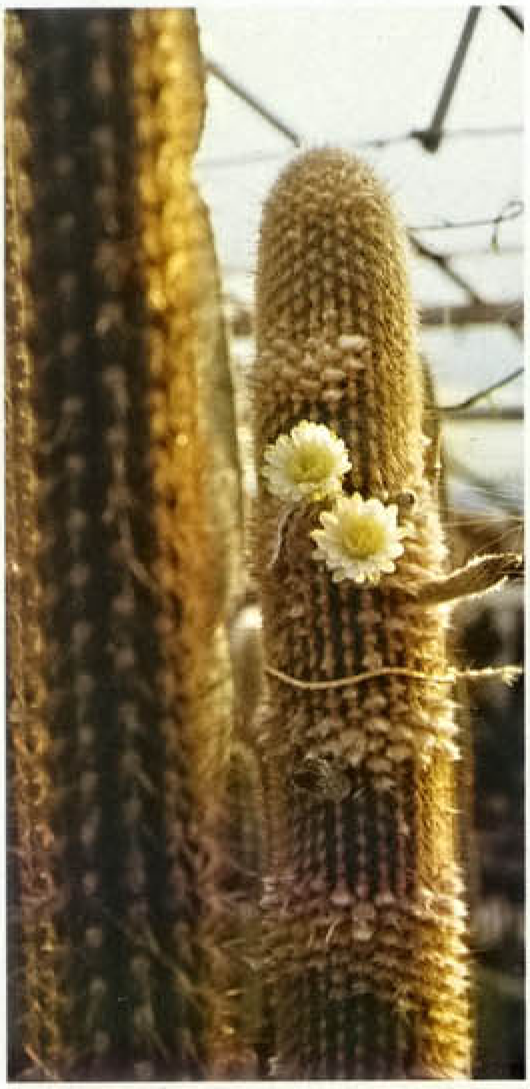






NEOBINGHAMIA **CLIMAXANTHA** (Werd.) Backeb.

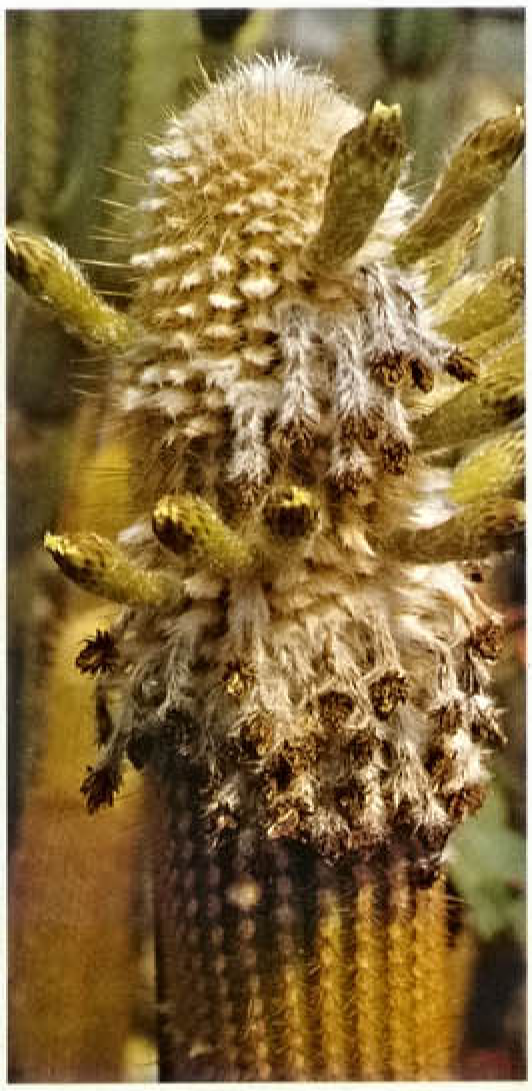
A bright green columnar plant with erect growth to about 3ft high, 2½–3¼in in diameter. It has between 19–27 ribs with brownish areoles bearing 50–70 fine bristly, yellowish-brown radial spines ⅕–⅓in long and one to three centrals to ¾in in length. Flowers appear in summer from a white woolly pseudocephalium and are nocturnal. These are 1–1½in long, with white inner petals and rose-pink outer petals. Requires full sun; normal cactus compost; minimum temperature 55°F. *Peru (Eulalia).*

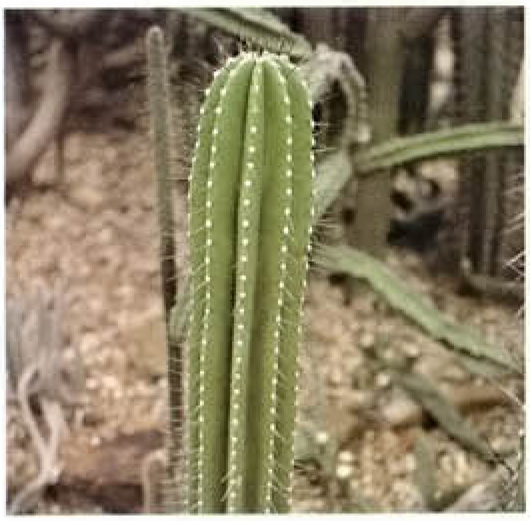
NEOBINGHAMIA **MIRABILIS** Rauh & Backeb.

Columnar up to 3ft 9in high, about 4in thick, branching from the base. The 22 brownish-green ribs are edged with areoles bearing about 50 thin, reddish-brown radial spines about ¾in long and one or two similar centrals, rather longer. Flowers appear from the often irregularly zoned cephaliums, which are clusters of white wool. The blooms are trumpet-shaped, with red inner petals and purple sepals, about 2½in long, nocturnal, in mid-summer. Requires sun; normal cactus compost; minimum temperature 55°F. *Peru (Olmos).*

NEOBINGHAMIA **VILLIGERA** Rauh & Backeb.

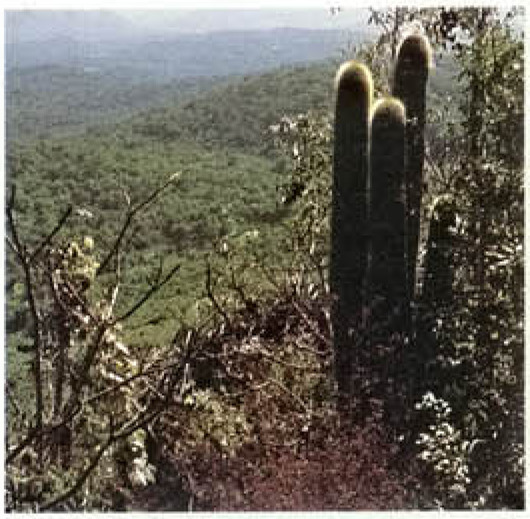
Dark-green columnar plants to over 3ft high, 4in in diameter, with 20 straight ribs. The yellowish-brown, fairly close-set areoles bear about 80 very fine short yellowish radial spines and one or two longer centrals, one of which is often 1½in long. Night flowering in summer, the flowers are produced from a white, densely woolly cephalium near the tips of the stems. The greenish-white blooms are 2¾in long, 1½in across. Needs sun; normal cactus compost; minimum temperature 55°F. *Peru (Churin).*





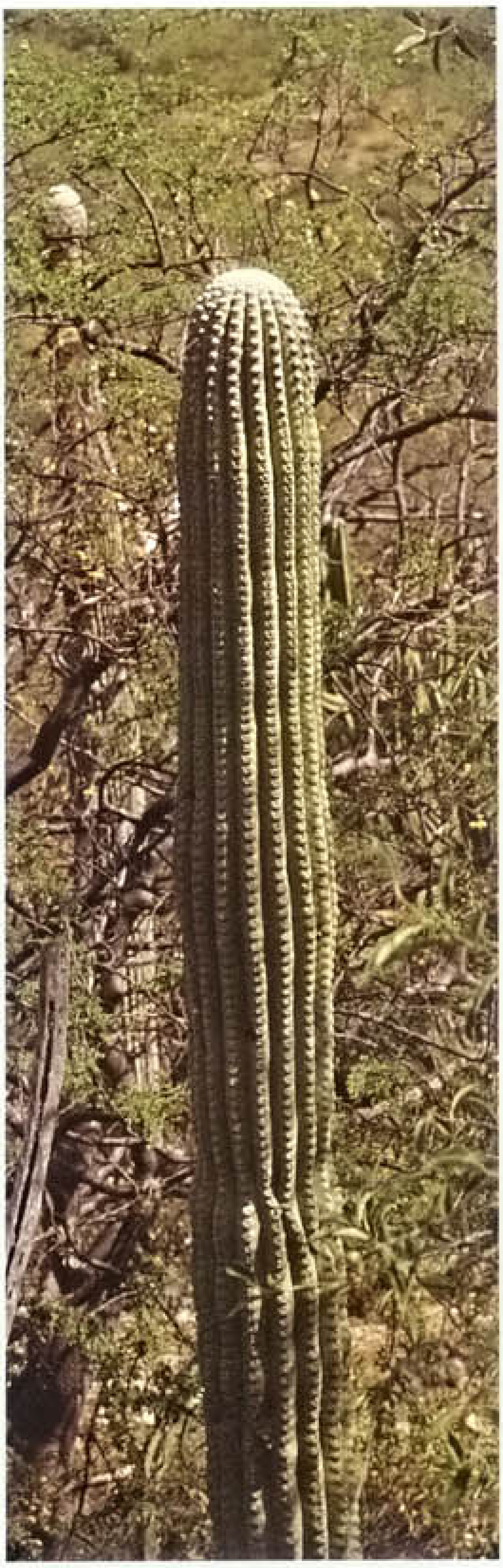
NEOBUXBAUMIA **EUPHORBIOIDES** (Haw.) Buxb.
Syn: *Rooksbya euphorbioides* (Haw.) Backeb.; *Cereus euphorbioides* Haw.

Tall columnar plants eventually reaching 10–15ft, very erect, and about 3½in thick. There are eight to ten acute and straight ribs with equally placed white-felted areoles. These bear one to five almost black spines, ½–1in long. The nocturnal flowers appear in early summer, and are borne laterally. Bell-shaped, they are reddish pink and 3¼–4in long. Requires bright light; a porous, enriched cactus compost; minimum temperature 50°F. *Mexico (Tamaulipas).*



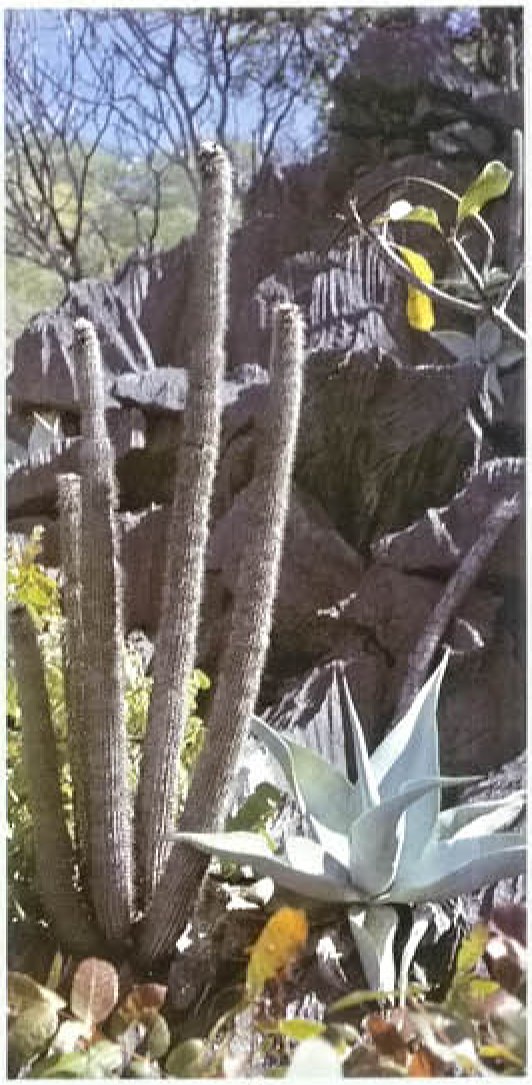
NEOBUXBAUMIA **POLYLOPHA** (DC.) Backeb.
Syn: *Cephalocereus polylopha* (DC.) Br. & R.; *Cereus polylophus* DC.

A tall, solitary, pale green, columnar plant reaching to 42ft in the wild and about 1ft 2in thick. It has 20–50 somewhat rounded ribs with small, white-felted areoles. The spines are yellow: seven to nine radials, ½–¾in long, one central to 3in long and yellowish bristles. Flowers at night in summer in shades of red, 1½–2in long, about 1in across. Requires a sunny position; normal cactus compost; minimum temperature 50°F. *Mexico (Hidalgo).*



NEOBUXBAUMIA **TETETZO** (Weber) Backeb.
Syn: *Pilocereus tetetzo* Weber

Tall, erect, columnar, and tree-like plants to 49ft tall with grayish-green stems 1ft in diameter. There are 13–20 somewhat rounded ribs with regularly placed round, brownish areoles bearing blackish spines, of which 8–13 are radials to ⅔in long, and there is one central about 2in in length. Nocturnal flowering in summer; flowers are almost terminal, whitish, and about 2½in long. Needs full sun, which is essential; normal cactus compost; minimum temperature 55°F. *Mexico (Puebla to Oaxaca).*



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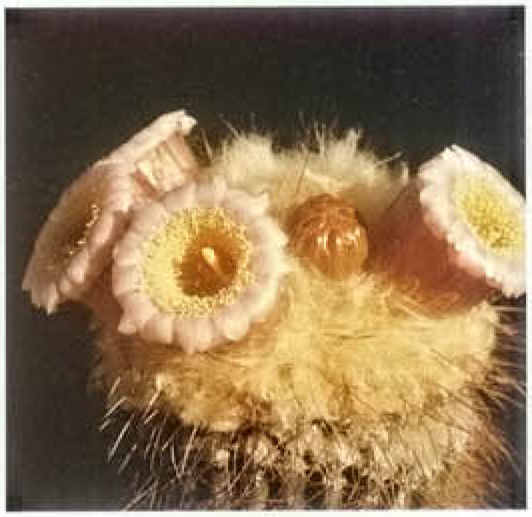

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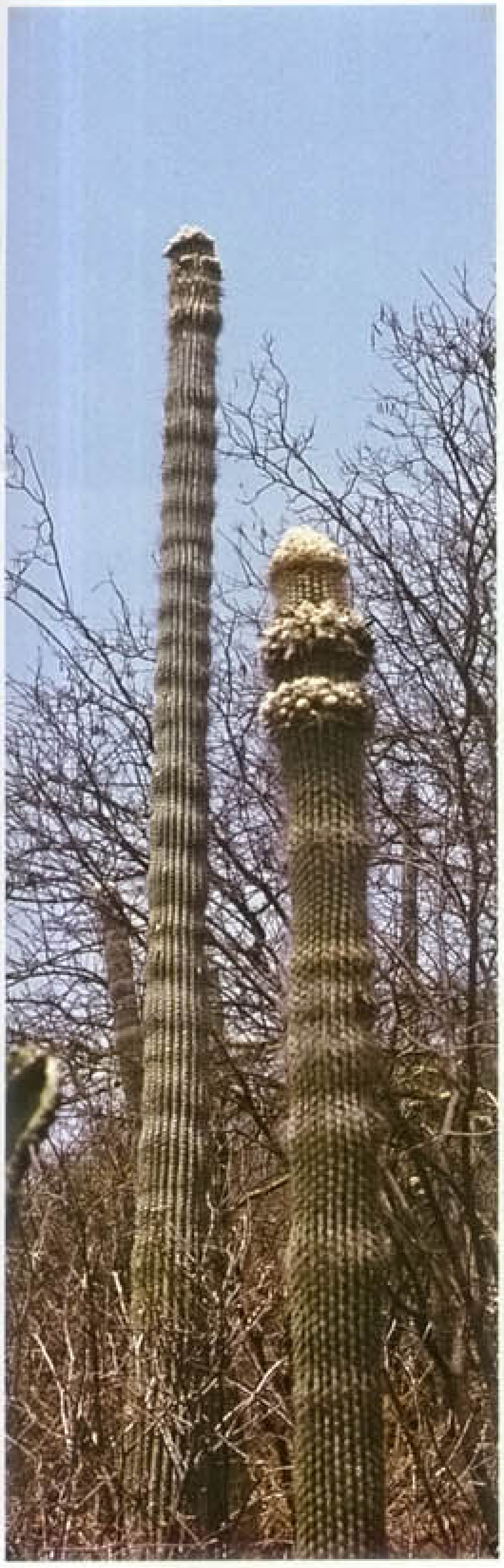
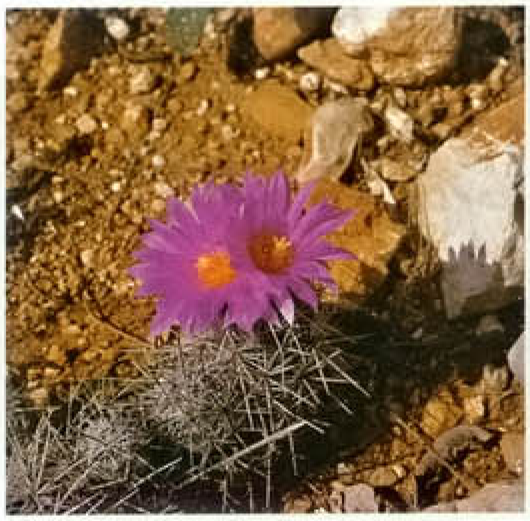
NEODAWSONIA **APICICEPHALIUM** (Dawson) Backeb.

An impressive columnar, tree-like species 3–10ft tall with bluish-green stems about 4in in diameter. It has 22–27 ribs with elliptical areoles bearing fine, bristly, grayish-white spines, nine to twelve radials ¾–1in long and two to six centrals ⅔–1½in long. Flowers appear from the small terminal cephalium, which is white and densely woolly. Each flower is 2–2½in long, about 1in across, rose-pink with yellowish suffusions; they are nocturnal, in summer. Requires full sun; normal cactus compost; minimum temperature 55°F. *Mexico (Oaxaca).*



NEODAWSONIA TOTOLAPENSIS Bravo & T. MacDoug.

A tall, elegant plant up to about 26ft high, 4¾–6in thick, grayish or brownish green. There are about 28 ribs with round, grayish-white areoles bearing 10–13 whitish radial spines up to ½in long and three to six slightly longer centrals. Flowers are nocturnal in early summer borne in a terminal cephalium which is later grown through, leaving raised sections along the stems. The blooms are rose pink, 1⅓in long. Requires bright light; normal cactus compost; minimum temperature 55°F. *Mexico (Oaxaca).*



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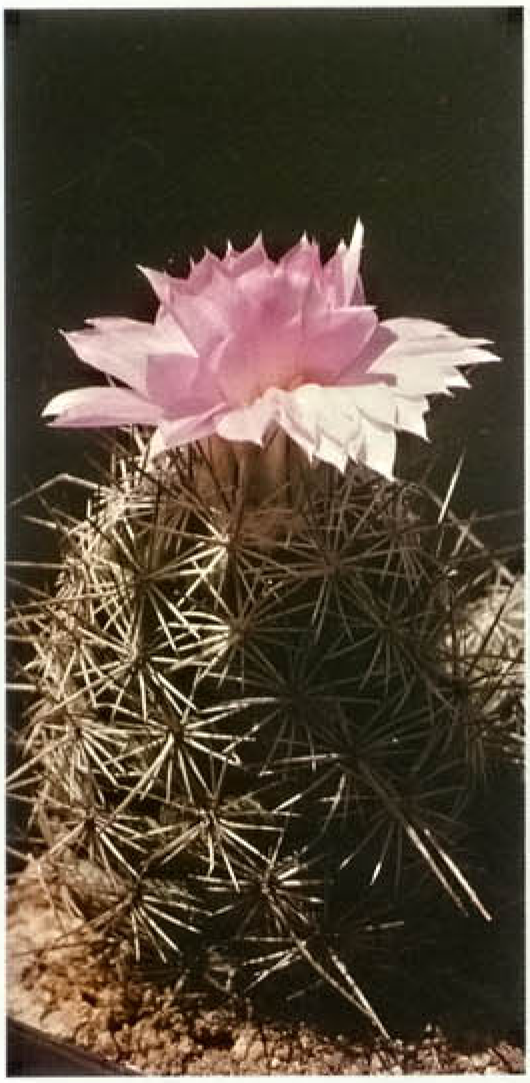

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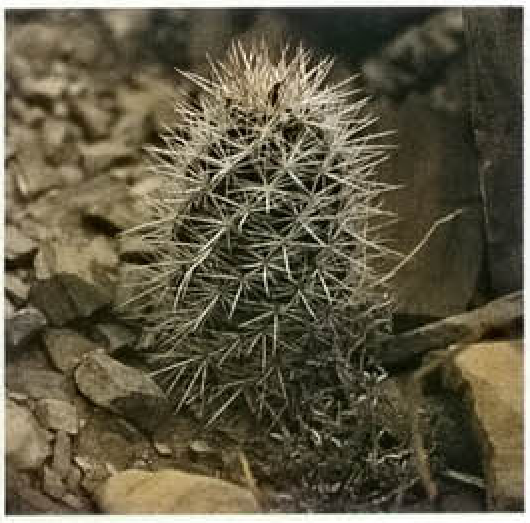
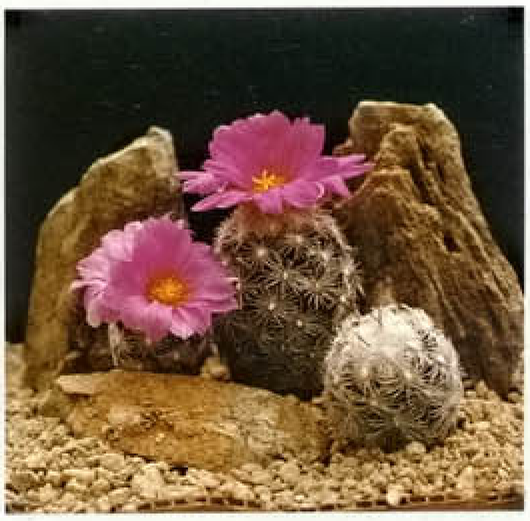
NEOLLOYDIA CONOIDEA (DC.) Br. & R.
Syn: *Coryphantha conoidea* Orc.; *Neolloydia texensis* Br. & R.

Globular to cylindrical, freely branching. The stems are 3–4in tall, 3in thick with oval tubercles and woolly axils. Spines are white to grayish-black; about 16 are radials to ½in long, there are three to five centrals to 1in. Flowers are diurnal in summer, reddish violet, about 2½in across. The pinkish-lilac form, earlier named *N. texensis,* is sometimes considered a separate species. Requires a sunny position; an enriched mineral, porous compost; minimum temperature 50°F. *USA (Texas), Eastern Mexico.*



NEOLLOYDIA CONOIDEA var. CERATITES (Quehl) Kladiwa & Fittkau
Syn: *Neolloydia ceratites* (Quehl) Br. & R.; *Coryphantha ceratites* Berger

Stems are similar to those of the species, grayish green with four-edged tubercles and woolly axils. The spines are grayish, sometimes tipped black; about 15 are spreading radials to ⅔in long, and three to six are centrals to 1in in length. It flowers by day in summer; the flowers are purple and 1–1⅓in long. Requirements are the same as for the species. *Mexico.*



NEOLLOYDIA CONOIDEA var. GRANDIFLORA (Otto) Kladiwa & Fittkau
Syn: *Neolloydia grandiflora* (Otto) Br. & R.; *Coryphantha grandiflora* Berger

Similar to the species, but the cylindrical or globular stem has closer-set tubercles and denser white woolly axils, especially when young. The spines are white with darker tips, consisting of about 25 radials to ¼in long and one or two brownish-black centrals to 1in in length, often absent. Flowers, diurnal in summer, are rich purple-pink and 1–1½in long. Requirements as for the species. *Mexico (Tamaulipas).*

NEOLLOYDIA **CONOIDEA var. MATEHUALENSIS** (Bckeb.) Kladiwa & Fittkau

Syn: *Neolloydia matehualensis* Backeb.

Up to about 6in tall, the plant is cylindrical and grayish green with prominent tubercles and white-felted axils. There are 10–12 grayish-white or pale yellowish radial spines about ½in long, and one or two centrals up to ¾in in length. Flowers are purplish, up to 1in long, and appear by day in summer. Requirements are the same as for the species. *Mexico (San Luis Potosi).*

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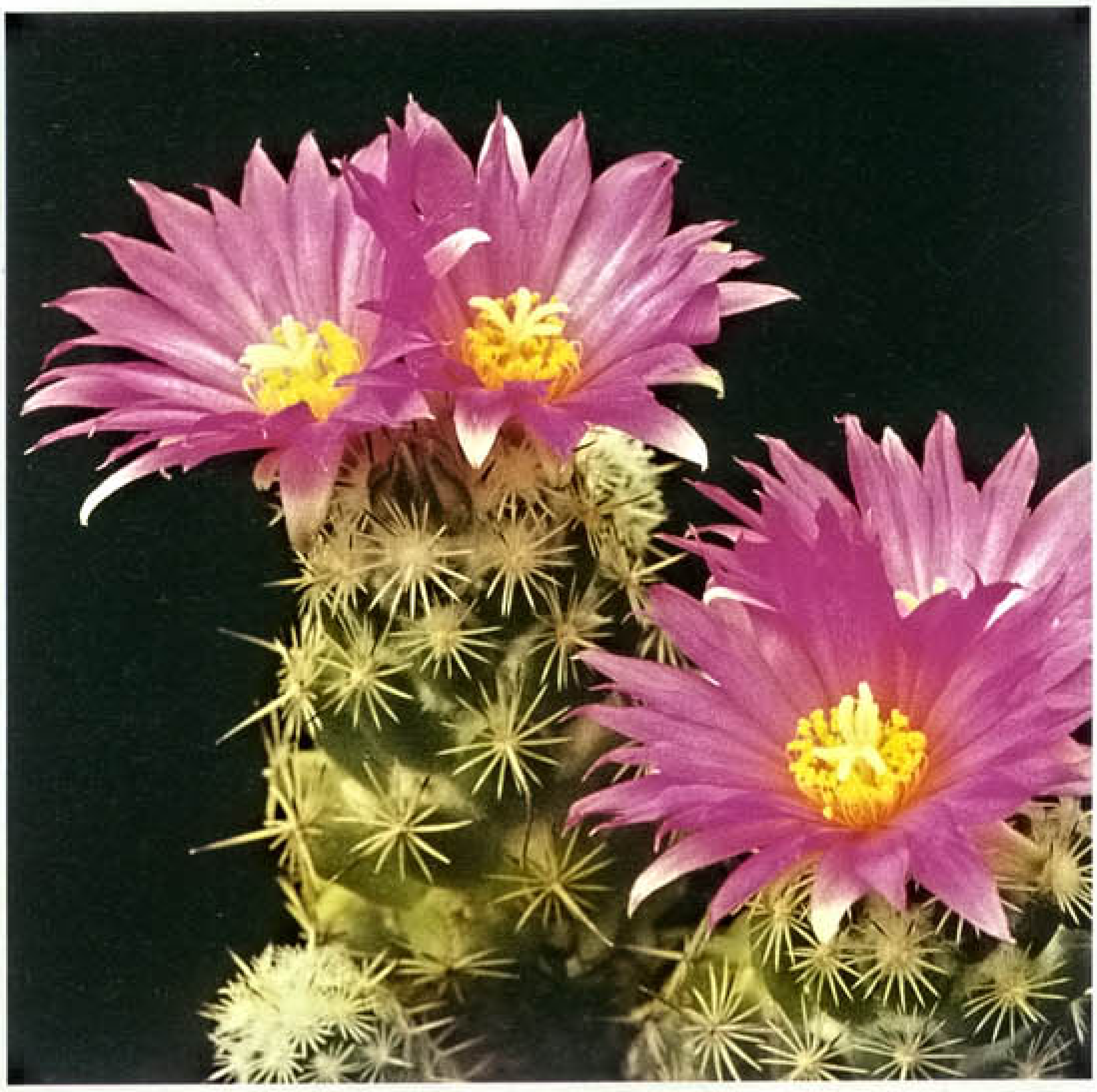

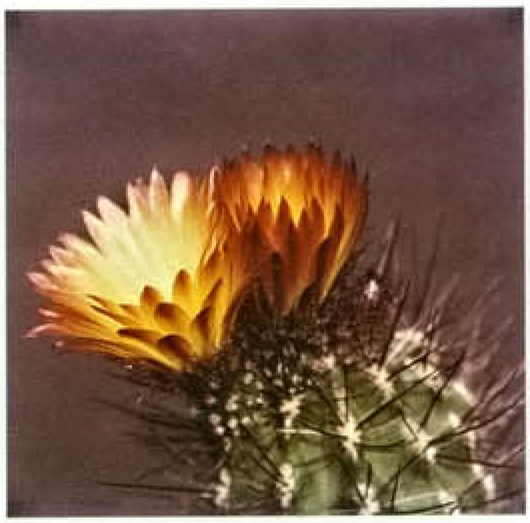

NEOPORTERIA **ANDREAEANA** (Backeb.) Donald & Rowley

Syn: *Neochilenia andreaeana* Backeb.

A grayish-green, oval plant to about 6in high, 2in in diameter, with about 14 ribs. The areoles bear about eight whitish-gray radial spines and four to five dark reddish-brown centrals about ¾in in length. Flowers have yellowish inner petals and are brownish red externally, 1in long, 1⅓in across; they are day flowering in late summer. Requires a bright position; normal cactus compost; minimum temperature 50°F. *Chile.*

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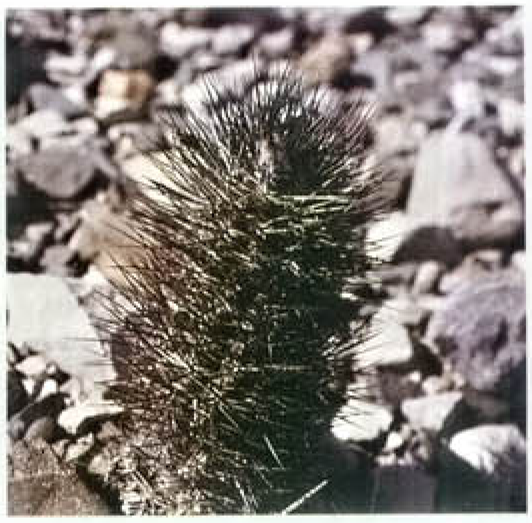

NEOPORTERIA **CRISPA** (Ritter) Donald & Rowley

Syn: *Pyrrhocactus crispus* (Ritter) Backeb.; *Horridicactus crispus* (Ritter) Backeb.

A dark gray-green globular species about 3in in diameter arising from a tuberous root-stock. It has 13–16 ribs with whitish areoles bearing black or grayish spines, six to ten radials ¾–2in long and two to four central spines 1½–3¼in in length. Late summer or autumn flowering, diurnal, the flowers are reddish with a red midstripe to the inner petals, about 1⅓in long. Needs bright light; normal cactus compost; minimum temperature 50°F. *Chile (Freirina).*

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NEOPORTERIA **ERIOCEPHALA** (Backeb.) Donald & Rowley

Syn: *Neochilenia eriocephala* Backeb.; *Neochilenia floccosa* (Ritter) Backeb.

A green tuberous-rooted plant to 1ft high, 2½in thick. It has about 13 prominent ribs nearly ½in high and many small tubercles. The areoles are whitish and bear black or grayish erect spines, eight to ten radials about ⅓–¾in long, and one or two or more centrals ½–1in in length. Day flowering in late summer, the flowers are pale yellow, and about 1⅓in long. Needs very good light; normal cactus compost; minimum temperature 50°F. *Chile.*

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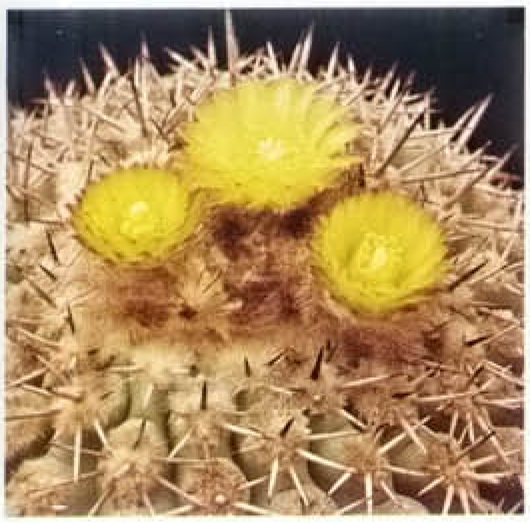

NEOPORTERIA **LINDLEYI** (Först.) Donald & Rowley
Syn: *Islaya paucispina* Rauh & Backeb.

A greenish-gray globular plant about 3¼in in diameter with 12–16 ribs. The areoles bear five to eight pale-reddish radial spines to ⅔in long and one brownish-red central about 1in in length. It is day flowering, in late summer; the flowers are bright yellow, ⅔in long. Requires a bright position; normal cactus compost; minimum temperature 50°F. *Southern Peru.*

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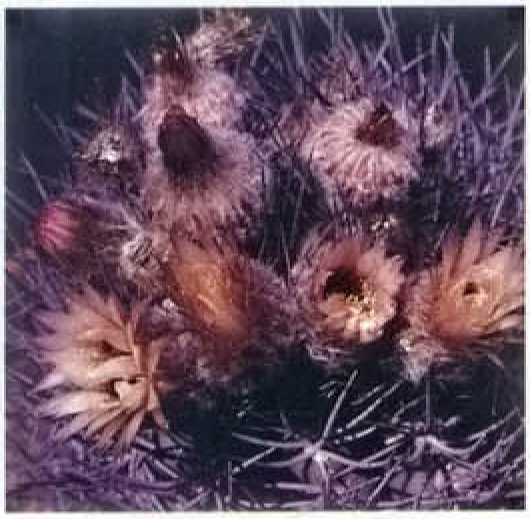

NEOPORTERIA **MEGLIOLII** (Rausch) Donald
Syn: *Pyrrhocactus megliolii* Rausch

A grayish bluish-green globular species which is most variable, especially in its habitat. There are about nine to twenty broad, round ribs, usually slightly notched, and the areoles carry many erect or twisting, grayish or grayish-brown spines. Flowers, which occur by day in late summer, are pinkish white or often a deeper shade. Requires a sunny position; normal cactus compost; minimum temperature 50°F. *Argentina (Marayes, San Juan).*

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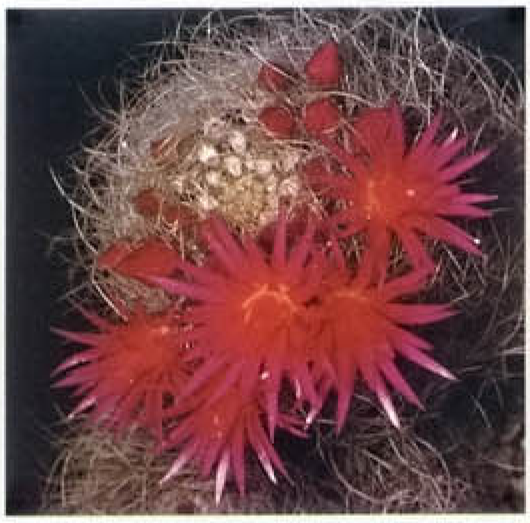

NEOPORTERIA **NIDUS** (Phil.) Backeb. **var. GEROCEPHALA** (Y. Ito) Ritter
Syn: *Neoporteria gerocephala* Y. Ito

A somewhat globular or slightly elongated plant about 2in in diameter, to 4in tall. It is dark grayish in color with about 20 whitish or nearly black spines, often up to 2in in length, which densely cover the whole stem. Day flowering in late summer, the flowers are a rich magenta, 1½–2½in long, 1½–2in across. Needs a sunny position; normal cactus compost; minimum temperature 50°F. *Chile.*

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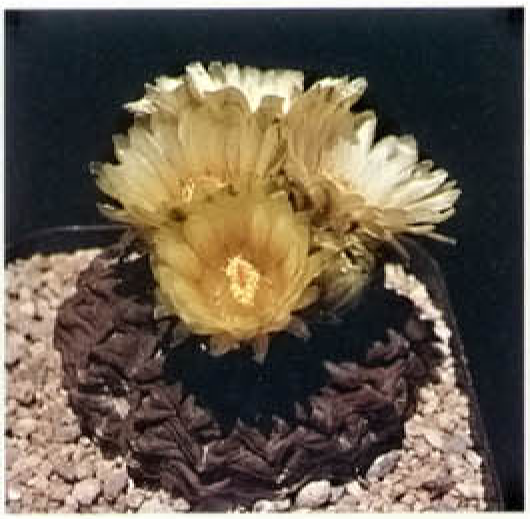

NEOPORTERIA **OCCULTA** (Phil.) Br. & R.
Syn: *Neochilenia occulta* (Phil.) Backeb.

Small globular plants ½–1in in diameter, yellowish brown to almost blackish in color, with eight to ten prominently tuberculate ribs. The areoles are whitish, bearing six to ten radial spines up to ⅓in long, and one central about ⅔in in length; all tend to fall with age. Flowers are diurnal, appearing in summer. They are pale yellow, very pale brownish at the base of the petals, and about 1in long, ¾in across. Requires a bright position; normal cactus compost; minimum temperature 50°F. *Chile (Copiapo).*

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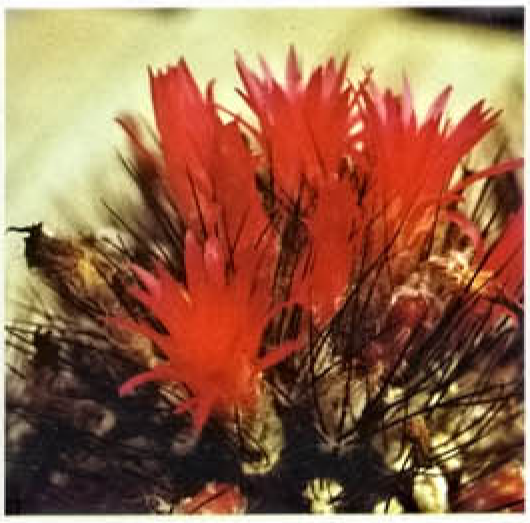

NEOPORTERIA **PLANICEPS** Ritter

Also known as *N. Laniceps* Ritter. A more or less globular species up to 8in tall, 1ft 3in thick, with 13–17 somewhat bumpy ribs. The areoles are white, set about ⅕in apart, and bearing about 50 hairlike spines including, usually, two brownish centrals ¾–1½in long. Flowers are carmine red, 1in long; these are diurnal, in late summer. Needs good light; normal cactus compost; minimum temperature 55°F. *Northern Chile.*

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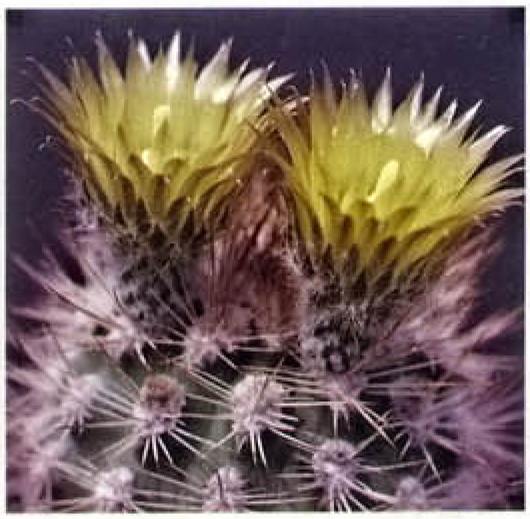

NEOPORTERIA **SANJUANENSIS** (Speg.) Donald & Rowley
Syn: *Pyrrhocactus sanjuanensis* (Speg.) Backeb.

A dark-green, slightly elongating, globular species with 13 ribs. The areoles are large, with gray, reddish-gray, or brownish spines, of which nine to fifteen are radials, three to seven centrals. Flowers are funnel-shaped and white to yellow; they are day flowering, appearing in late summer. Needs full sun; normal cactus compost; minimum temperature 50°F. *Argentina (San Juan).*

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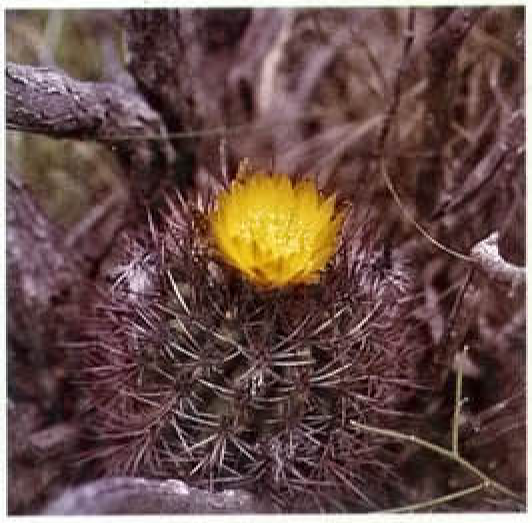
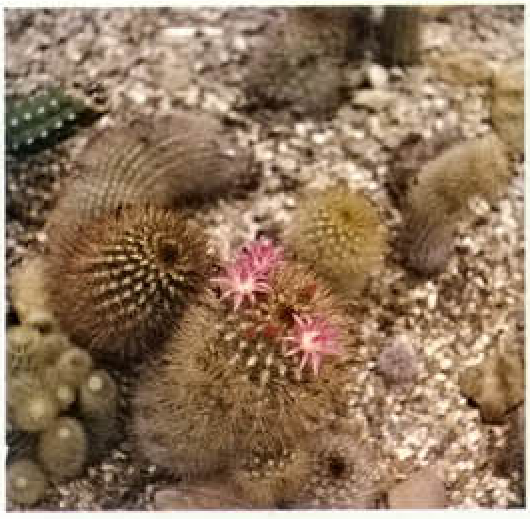


NEOPORTERIA **SETIFLORA** (Backeb.) Donald & Rowley

Syn: *Pyrrhocactus setiflorus* Backeb.

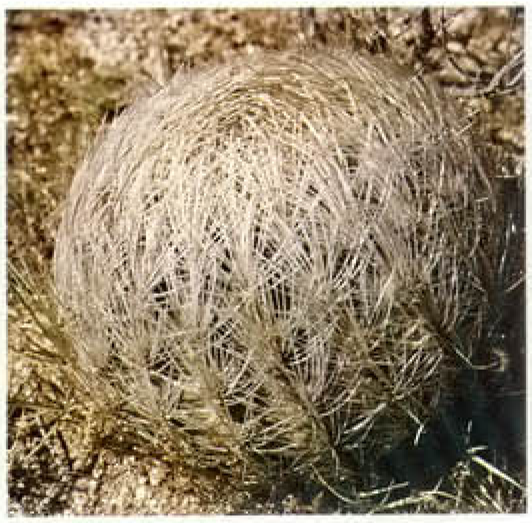
A globular, bluish-green plant with about 15 ribs. The large, brownish-white felted areoles bear about eight to ten reddish-gray radial spines and about four centrals up to 1in long. Flowers are 1in long, a pale yellow often with orange shading, and appear by day in late summer. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Argentina (Mendoza).*



NEOPORTERIA **SUBGIBBOSA** (Haw.) Br. & R. **fma LITORALIS** (Ritter) Donald & Rowley

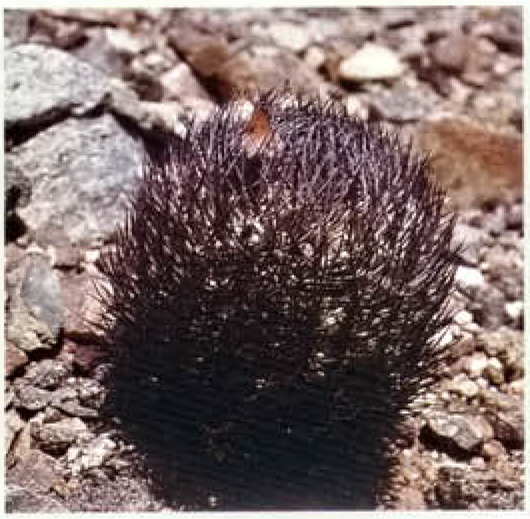
Syn: *Neoporteria litoralis* Ritter

A green, more or less globular plant 3¼–4in in diameter with 14–21 ribs. The white or yellow-felted areoles are oval with about 30 hair-like radial spines up to ¾in long, and eight to twelve centrals up to 1in, the color varying from yellowish white to almost black. Flowers are diurnal, occurring in late summer; they are carmine pink, and up to nearly 1in long. Requires a bright position; cactus compost; minimum temperature 50°F. *Chile.*



NEOPORTERIA **UMADEAVE** (Frič) Donald & Rowley

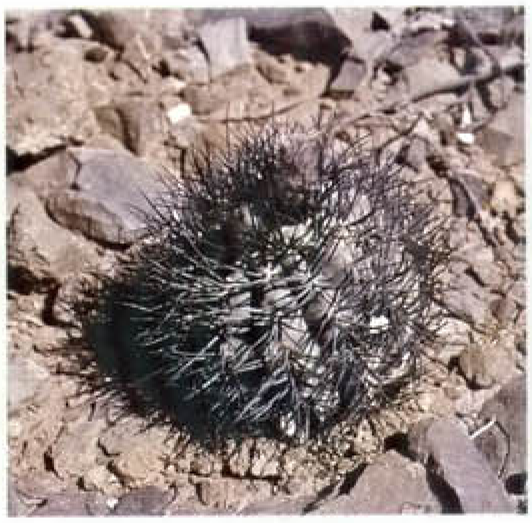
Previously included within *Pyrrhocactus*. A dull-green, globular species up to 10in tall, 4¼in thick, with 18–25 humped ribs. There are 30–35 spines, ranging from white to black, and 1–1½in long. Flowers are pale yellow, 1–1⅓in long, and occur diurnally in late summer. Needs bright light; normal cactus compost; minimum temperature 50°F. *Northern Argentina (Jujuy).*



NEOPORTERIA **UMADEAVE var. MARAYESENSIS** (Backeb.) Donald & Rowley

Syn: *Pyrrhocactus umadeave* var. marayesensis Backeb.

A fairly bright green plant, somewhat globular in shape and completely covered with blackish blue-grayish spines mostly tending to be upward-pointing. The flowers, appearing by day in late summer, are white, pinkish externally. Requires a sunny position; normal cactus compost; minimum temperature 50°F. *Northern Argentina (Marayes).*



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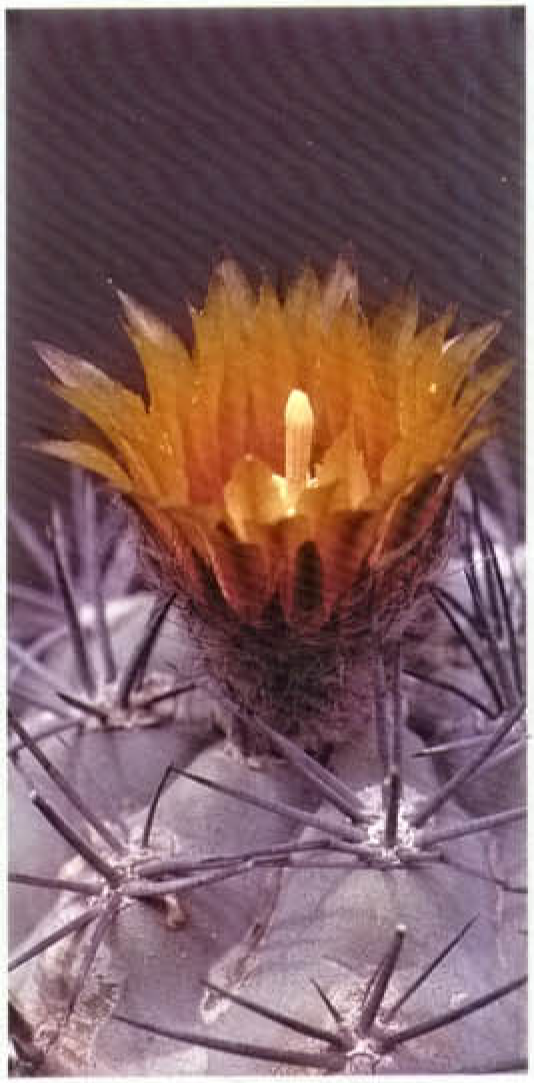

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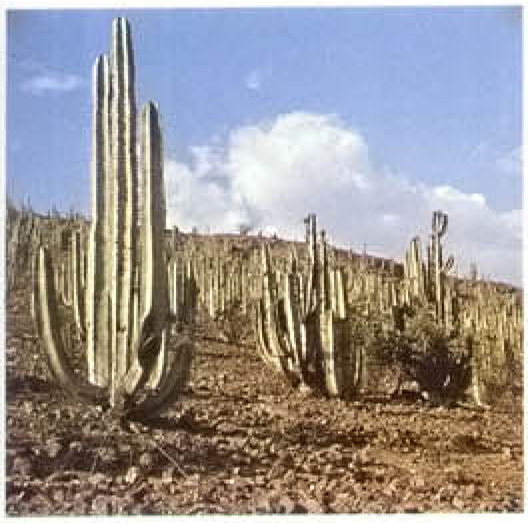
NEOPORTERIA **VILLICUMENSIS** (Rausch) Donald

Syn: *Pyrrhocactus villicumensis* Rausch

Small grayish-green globular plants with eight to twelve rounded ribs. The areoles, which are slightly white-felted, bear about eight dark-grayish or grayish-black radial spines and one or two, rarely more, centrals. Flowers are pinkish brown, darker colored externally, but it is a variable species. It is day flowering, in late summer. Needs sun; normal cactus compost; minimum temperature 50°F. *Argentina (San Juan, Villicun).*

NEORAIMONDIA



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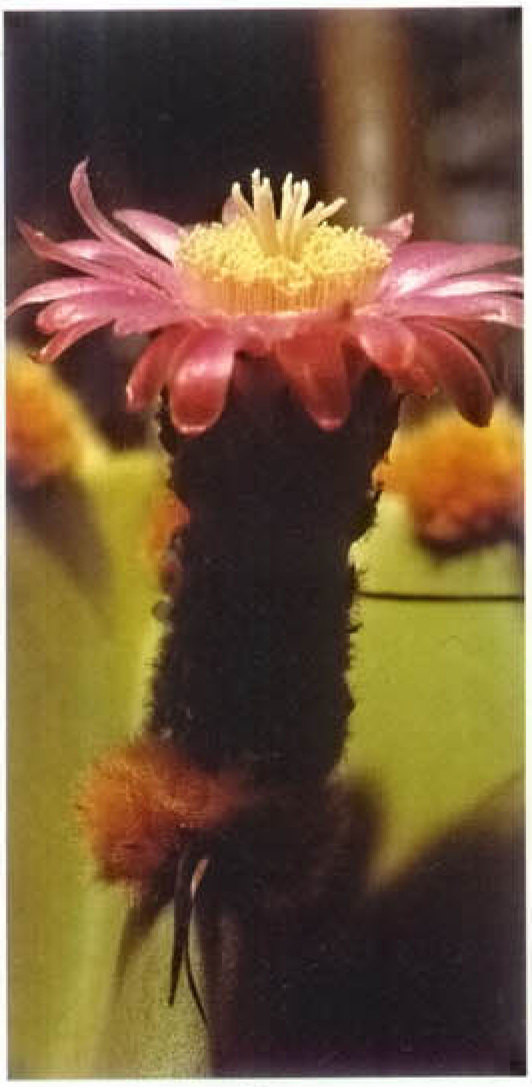

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NEORAIMONDIA **GIGANTEA** (Werd. & Backeb.) Backeb.

Currently known as *N. arequipensis* var. *gigantea* Backeb. or *N. peruviana* (L.) Ritter. Columnar, grouping, up to 26ft high. It is bright green, branching from the base, with four to five straight ribs, the slightly rounded edges having large, protruding, round, brown areoles. There are 12 or more grayish-black spines from each areole, unequal in length, usually two or three are 4¾in or more long. Flowers are diurnal, in summer, up to 1½in long, purplish rose. Requires sun; normal cactus compost; minimum temperature 59°F. *Northern Peru.*

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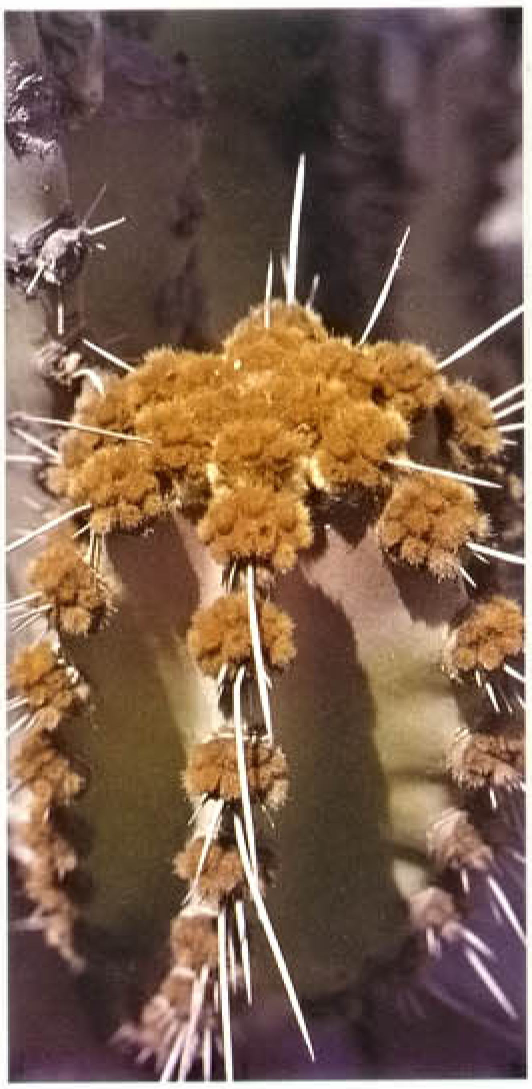

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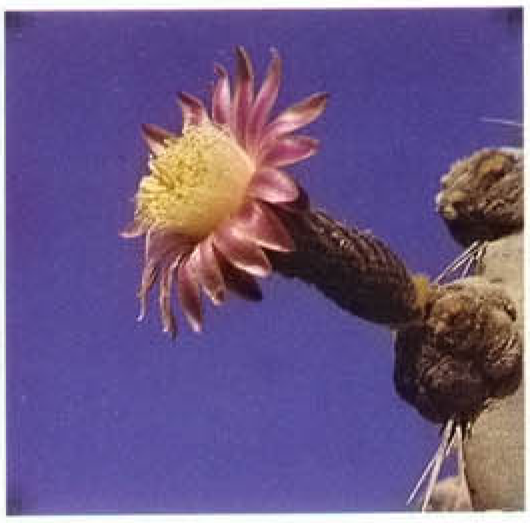

NEORAIMONDIA **ROSEIFLORA** (Werd. & Backeb.) Backeb.

Syn: *Neoraimondia arequipensis* var. *roseiflora* (Backeb.) Ritter

Columnar, up to about 6½ft tall with a thick grayish-green stem with five ribs. These have prominent warts tipped with large areoles consisting of tufts of brownish bristles. The spines are grayish-white, 4in or more long. Flowers are pinkish-red with a purplish center line to the petals and 1½–2in long, including the brown-felted tube: they occur by day, in summer. Needs bright light; cactus compost; minimum temperature 59°F. *Peru.*

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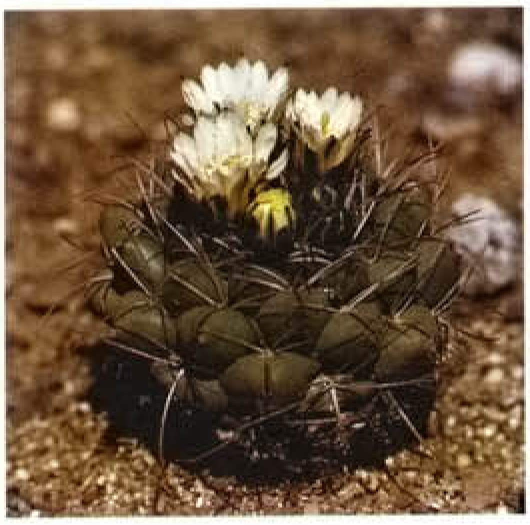
NEOWERDERMANNIA



NEOWERDERMANNIA **VORWERKII** Frič.

Syn: *Weingartia vorwerkii* (Frič.) Backeb.

A dark grayish-green globular species 2½–3¼in in diameter with 16 or more tuberculate ribs. Areoles are in the depressions between the tubercles, and there are about ten brownish spines up to ⅔in long and one more central spine which is often hooked. Flowers are white or pale lilac pink, and are ¾–1in long and wide; they are day flowering, in summer. The plant must be kept completely dry in winter. Requires a sunny position; an enriched mineral compost; minimum temperature 45°F. *Northern Argentina, Northern Bolivia.*

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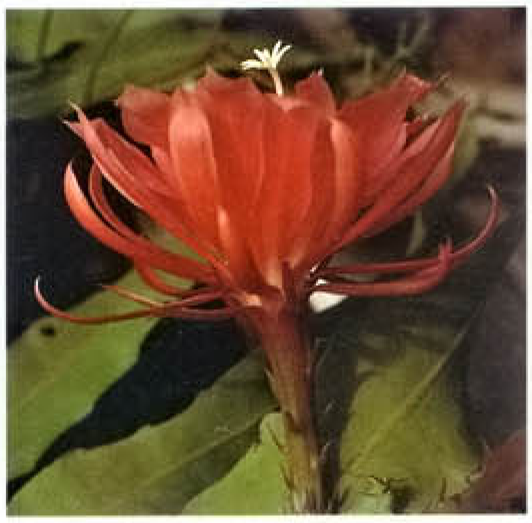
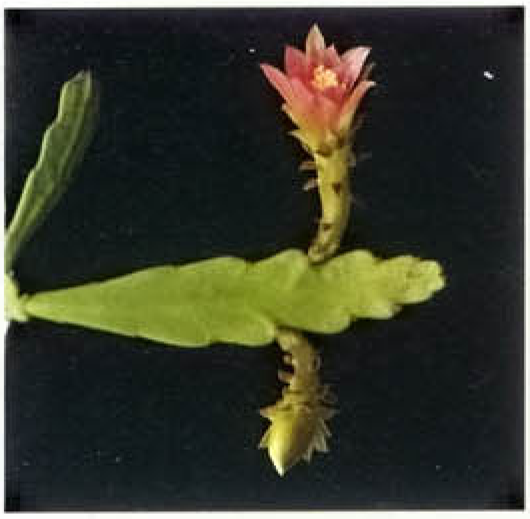
NOPALXOCHIA



NOPALXOCHIA **HORICHII** Kimnach

An epiphytic species from forest regions. The stems are initially erect but become pendulous, and the branches are about 2ft long, trigonous becoming flat to 1½in wide. The margins are serrate with wool and a few fine bristles in the serrations. Flowers are funnel-shaped, about 6½in long, 5in across, rosy pink to magenta and with a long protruding yellowish style. They are day flowering, in early summer. Needs filtered light; normal cactus compost; minimum temperature 55°F. *Costa Rica.*



NOPALXOCHIA **MACDOUGALLII** (Alex.) Marsh.
Syn: *Lobeira macdougallii* Alex.

A rare epiphyte with long, fleshy, flat stems up to 10in long and about 2in broad. The margins are prominently crenated with inset areoles which are spineless. Flowering in daytime in early summer, the lilac-rose flowers are narrowly trumpet-shaped, about ⅕in long, and with a stoutish style, six to nine stamens, and white stigma lobes. A choice, rare species requiring filtered light; slightly acid, porous compost; minimum temperature 59°F. *Mexico (Chiapas).*

NOPALXOCHIA **PHYLLANTHOIDES** (DC.) Br. & R.
Syn: *Cereus phyllanthoides* DC.

A slender, branching epiphytic cactus with soft, strap-like branches 1–1½ft or more long. It is bright green in color, with crenate margins and very small brownish, spineless areoles. A late spring, day flowering species, the flowers are in shades of pink, 3–3½in long on a tube about ¾in in length. It makes an ideal houseplant. Careful watering is necessary, and it requires filtered light; normal cactus compost; minimum temperature 50°F. *Mexico (Puebla).*

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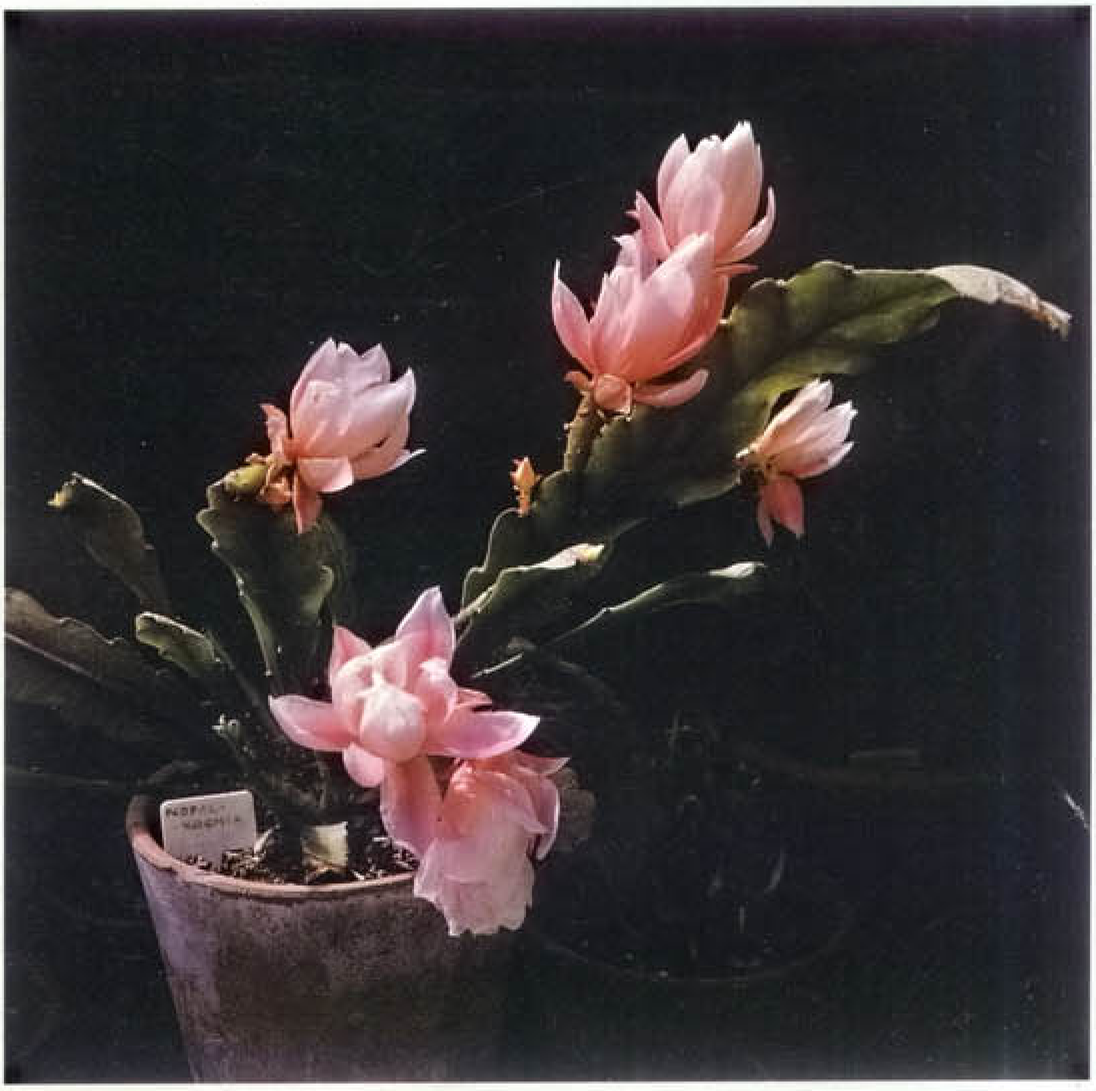
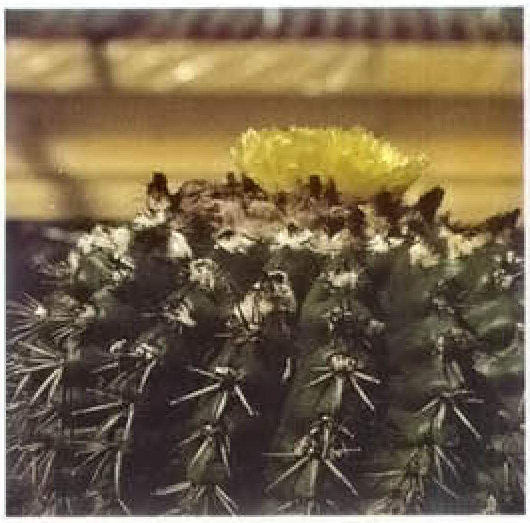
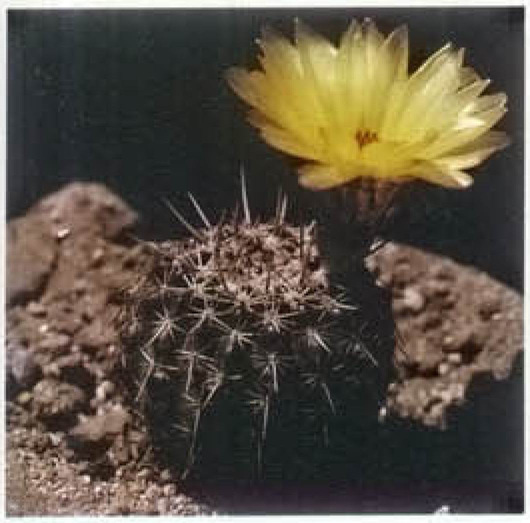


NOTOCACTUS



NOTOCACTUS **CORYNODES** (Otto ex Pfeiff.) Krainz
Syn: *Wigginsia corynodes* (Otto ex Pfeiff.) D. M. Porter

A semi-globular, elongating species up to 8in high, 4in in diameter. Dark green, it has a densely woolly crown and 13–16 notched ribs with areoles ½–¾in apart. The spines are yellowish, darker at the tips; seven to twelve are radials to ¾in long, and there is one longer central. Flowering in summer, it is diurnal, with bright yellow flowers up to 2in across. Requires full sun; normal cactus compost; minimum temperature 50°F. *Argentina, Uruguay.*



NOTOCACTUS **FLORICOMUS** (Arech.) Berger **var. VELENOVSKII** (Frič ex Backeb.) Krainz

Syn: *Notocactus velenovskii* Frič

A dark glossy green, more or less globular plant about 3¼in high, 4–6in in diameter. It has about 20 notched ribs and the areoles bear many glassy-white radial spines, often tipped reddish, about ½in long with usually one similarly colored long central. Day flowering in summer, the flowers are a glossy golden yellow, 2–2½in in diameter. Needs full sun; normal cactus compost; minimum temperature 50°F. *Uruguay.*

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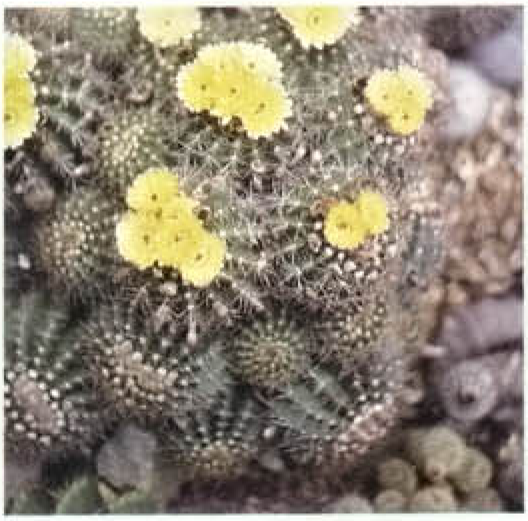

NOTOCACTUS **POLYACANTHUS** (Link & Otto) Theunissen

Syn: *Wigginsia polyacantha* Ritter

Dark-green, somewhat globular plants up to 4in in diameter with about 17 notched ribs. The areoles are whitish, set about ½in apart, and bear six to eight whitish radial spines up to ½in long with usually one longer central. Early-summer flowering and diurnal, the flowers are canary yellow with prominent reddish stigma lobes, and are ⅔–¾in in diameter. Requires sun; normal cactus compost; minimum temperature 50°F. *Southern Brazil.*

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NOTOCACTUS **PURPUREUS** Ritter

A dark green globular, later elongating species up to 5½in in diameter. It has 14–19 notched ribs and the white areoles are set ⅕–⅓in apart. These bear about 15 whitish radial spines ¼–⅔in long and four to six yellowish-brown centrals to ¾in in length. Flowering in mid-summer, it is diurnal; the flowers are 1½in long, pinkish purple, with wide-spreading white stigma lobes. Requires a sunny position; normal cactus compost; minimum temperature 50°F. *Brazil (Rio Grande do Sul).*

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NOTOCACTUS **MINIMUS** Frič & Krzgr.

A small cylindrical or globose plant with 12–15 narrow ribs. The areoles bear 15–17 stiff, bristly, glassy-white radial spines and three to four slightly brownish centrals, varying from ⅕–¼in in length. The flowers are yellow, about 1½in in diameter and 1in long, and appear by day, in summer. Requires fairly good and bright light; normal cactus compost; minimum temperature 50°F. *Uruguay.*

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NOTOCACTUS **PROLIFERA** (Ritter) Theunissen

Syn: *Wigginsia prolifera* Ritter

A grayish-green globular plant 1½–3¼in in diameter. It has 13–17 ribs with crenate edges. The areoles are ⅒–⅕in in diameter and carry brownish spines, six to nine radials ½–¾in long and one, or often up to four, centrals ¾–1in in length. Flowers are yellow, about 1in long and across; they appear in summer, and are diurnal. Needs bright sun; normal cactus compost; minimum temperature 50°F. *Brazil (Rio Grande do Sul).*

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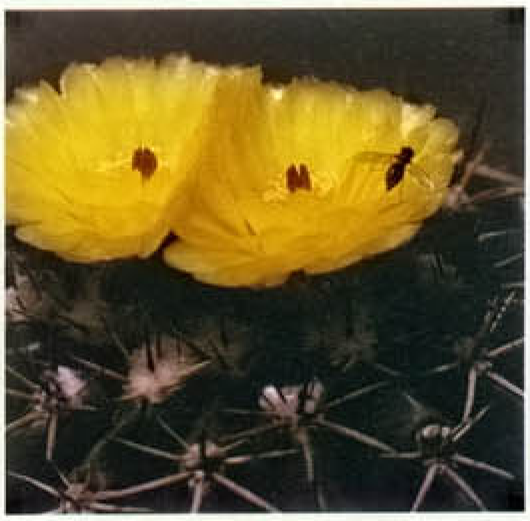

NOTOCACTUS **TEPHRACANTHUS** (Link & Otto) Krainz

Syn: *Malacorcarpus tephracantha* (Link & Otto) K. Sch.

A dark-green, slightly flattened globular plant up to 6in in diameter, with 16–18 slightly notched ribs. Areoles are about ½–⅔in apart, bearing five to seven pale yellowish-brown radial spines and usually one central of unequal length up to 1in. It flowers by day, in summer, the flowers a bright canary yellow, up to 2in long and wide. Requires bright light; normal cactus compost; minimum temperature 50°F. *Brazil, Argentina, Uruguay.*

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NOTOCACTUS

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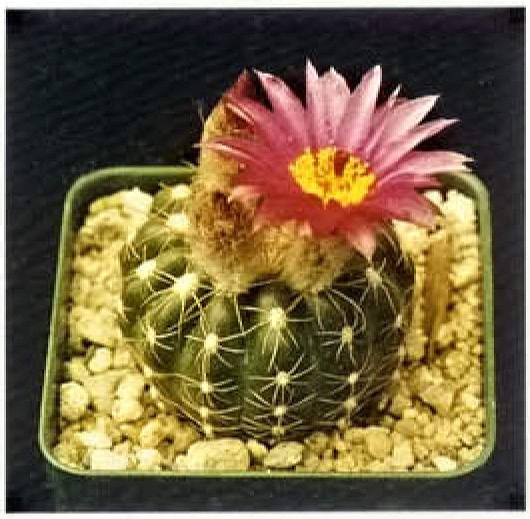

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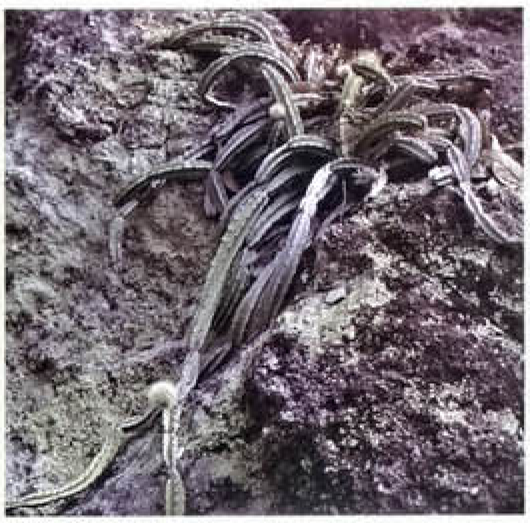
NOTOCACTUS **UEBELMANNIANUS** Buin.

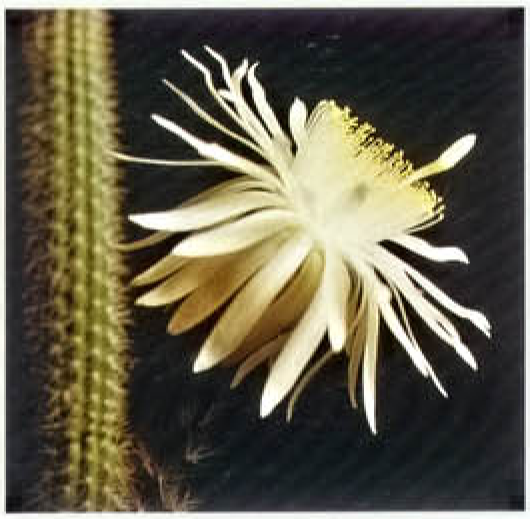
A dark-green globular species, somewhat flattened on the upper surface, and about 7in in diameter. It has 12–16 prominent thick ribs and large, white areoles with six to eight grayish-white radial spines ½–1in in length. Midsummer flowering, it is diurnal; the flowers are glossy red, and about 1¾in long and wide. Needs bright light; normal cactus compost; minimum temperature 50°F. *Brazil (Rio Grande do Sul).*

NYCTOCEREUS



NYCTOCEREUS **CHONTALENSIS** Alex.

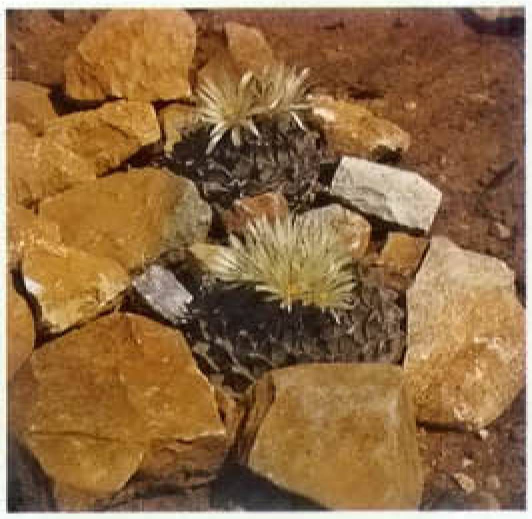
A creeping, trailing plant with stems to 3ft or more in length, and branching freely. The stems are yellowish or pale green and about 2in thick with four to six angular ribs. The spines are brownish, varying from ⅕–½in in length, of which five to seven are radials, and one to four are centrals. Flowers are nocturnal, appearing in early summer; they are whitish, 2½–3¼in long, and sweetly scented. Requires a position in slight shade; normal cactus compost; minimum temperature 55°F. *Mexico (Oaxaca).*



NYCTOCEREUS **SERPENTINUS** (Lagasca & Rodr.) Br. & R.
Syn: *Peniocereus serpentinus* (Lagasca & Rodr.) N. P. Taylor

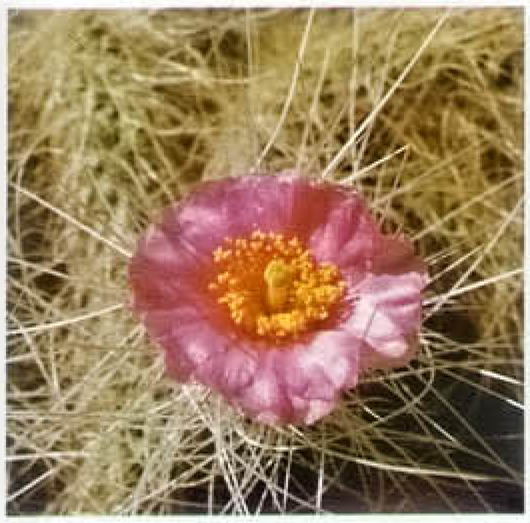
Stems are erect or slightly pendant, often trailing; they are 15–20ft in length, ¾–2in thick, with 10–13 slightly rounded ribs. There are about 12 whitish or brownish spines ½–1in long. Night flowering in summer, the flowers are white, pinkish externally, and 6–8in long. Needs slight shade; normal cactus compost; minimum temperature 55°F. *Mexico (probably Eastern).*

OBREGONIA



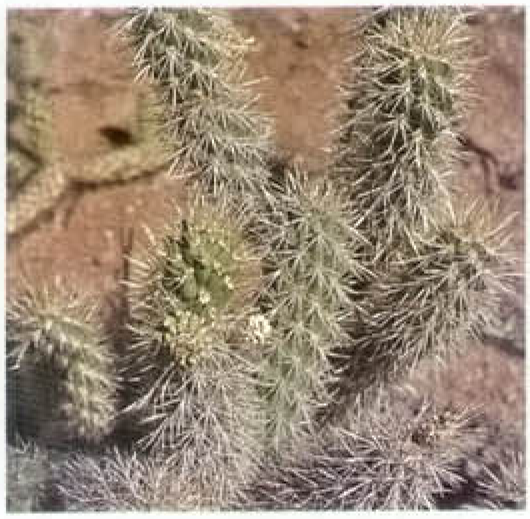
OBREGONIA **DENEGREI** Frič
Syn: *Strombocactus denegrei* (Frič) Rowley

A globular plant with a thick taproot. The stems, 3¼–4¾in in diameter, are covered with grayish-green or brownish-green flat, leaf-like tubercles which are spirally arranged, and are about ⅔in long, 1in wide at the base. Areoles appear at the tips of the tubercles bearing a few bristly spines which soon fall. Flowers form in center of plant; these are white, ¾–1½in across, and are diurnal, appearing in summer. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Tamaulipas).*



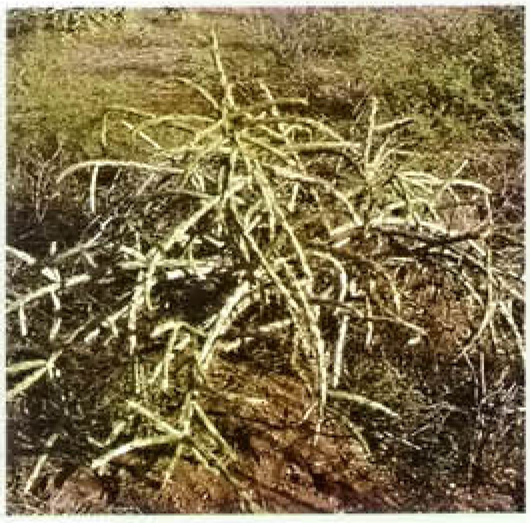
OPUNTIA **ALBISAETACENS** Backeb.

A low-growing plant with somewhat cylindrical or longish, flattened joints 1½in or more long, 1in broad. These are covered with soft whitish, bristle-like spines, about 10 from each areole and about 2½in long, curved, and spreading in all directions. Flowers are reddish purple and 1½–2in across: they are diurnal, in summer. Needs good light; normal cactus compost; minimum temperature 50°F. *Bolivia (Tupiza).*



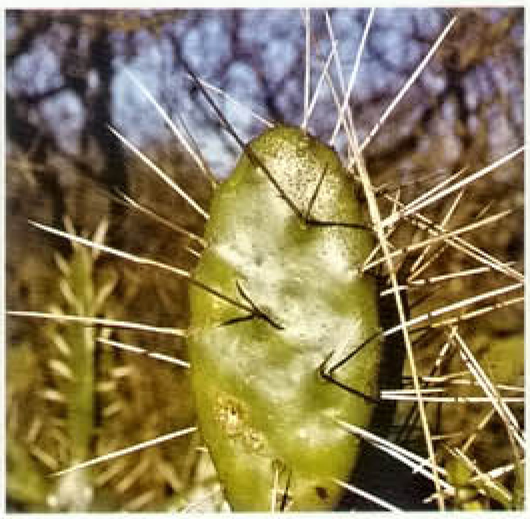
OPUNTIA **ALCAHES** Weber

A branching, spiny shrub up to about 3ft high. It has more or less dark-green cylindrical joints 2½–6in long to 2in thick with prominent tubercles. The areoles are whitish, bearing yellow glochids, with five to twelve whitish-yellow spines ¾–1in in length. Day flowering in mid-summer, the flowers are greenish-yellow with reddish edges to the petals and 1–1⅓in long. Needs a bright sunny position, which is essential; normal cactus compost; minimum temperature 50°F. *Mexico (Baja).*



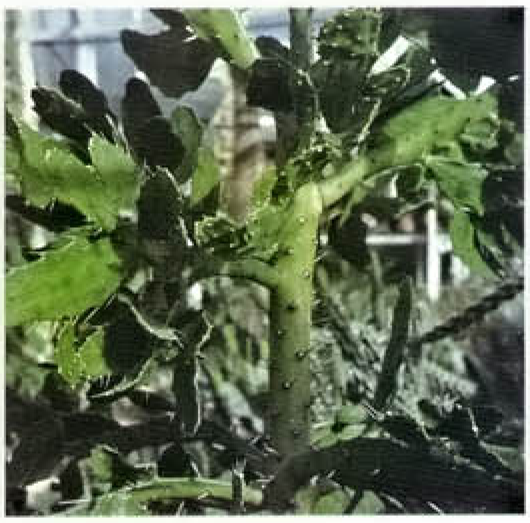
OPUNTIA **ARBUSCULA** Engelm.

A shrub-like plant 3–6½ft tall. It has spreading branches with joints 2–6in long, ½in thick and low, inconspicuous tubercles up to 1in long. There are one to four reddish spines, ½–1½in long, in sheaths of pale brown from each areole. Flowers, ¾–1⅓in in diameter, are yellowish green and are diurnal, occurring in early summer. Requires full sun; normal cactus compost; minimum temperature 45°F. *USA (Arizona), Mexico (Sonora).*



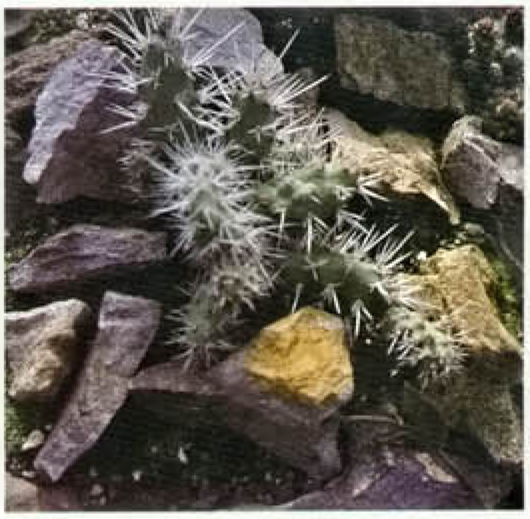
OPUNTIA **ARECHAVALETAI** Speg.

A shrubby, erect, much branching plant 3–10ft tall. The bright-green joints are oblong or obovate and flat, and 10in–1ft long. It has quite small brown areoles with one to three spreading white spines up to 3½in in length. Flowers are yellow, with white stamens and style; they are diurnal, coming in mid-summer. Needs a sunny location; normal cactus compost; minimum temperature 50°F. *Argentina, Uruguay.*



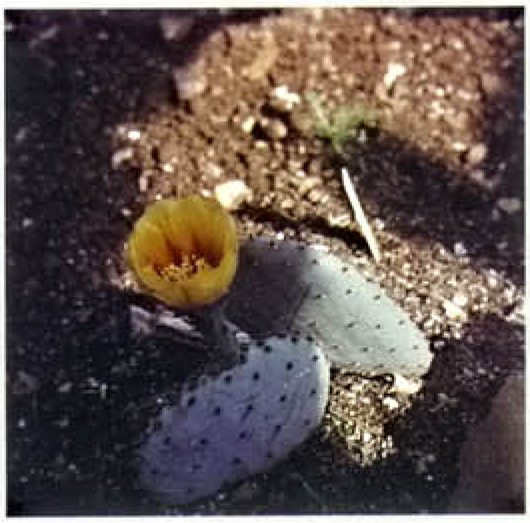
OPUNTIA **ARGENTINA** Griseb.

A tree-like plant up to 49ft tall in its habitat. It has a thick, cylindrical, fresh-green trunk 2½–3¼in thick and cylindrical branches bearing flat oblong joints 2–4¾in long with one, rarely more, slender spine up to ½in in length. Flowering by day in mid-summer, the flowers are greenish yellow and 1–1½in in diameter. Its fruits are red, differing in this respect from the similar *O. brasiliensis* Haw. which has yellowish fruits. Requires full sun; normal cactus compost; minimum temperature 50°F. *Northern Argentina.*



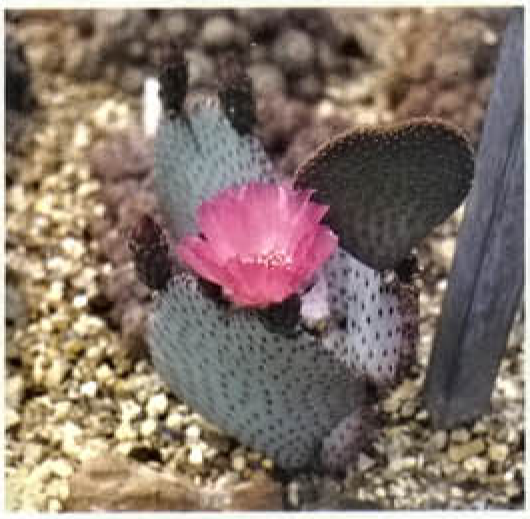
OPUNTIA **ARMATA** Backeb.

A dull-green, low-growing, spreading plant with joints about 1⅓in long, ⅔–¾in wide. The areoles are small but prominent, and reddish brown with tufts of minute reddish-brown glochids. There are about nine white spines, often with darker tips, varying from ⅕–¾in in length. Flowers are possibly yellow, and appear by day in mid-summer. Needs good light; a slightly calcareous compost; minimum temperature 50°F. *Northern Argentina.*



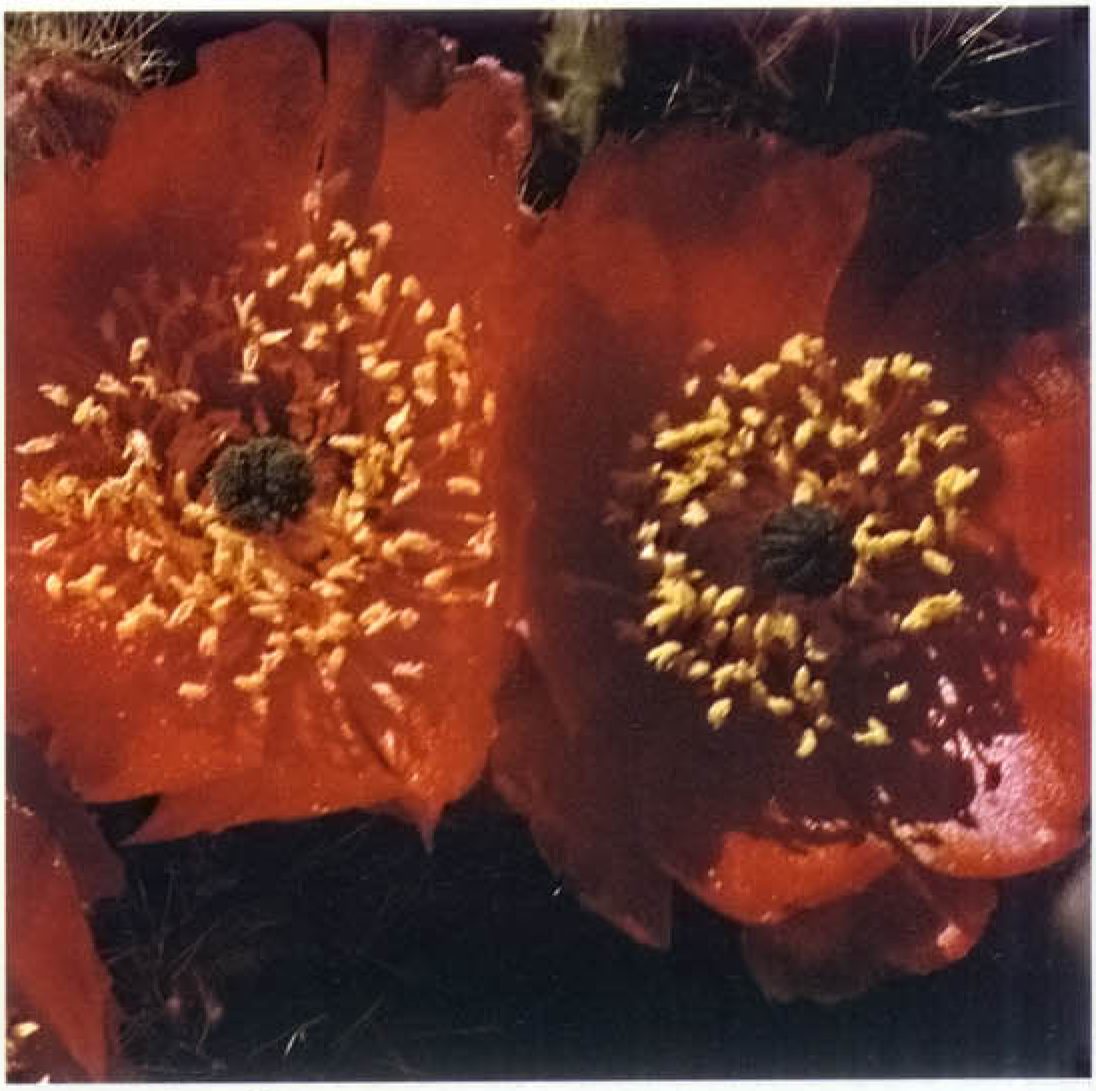
OPUNTIA **AZUREA** Rose

A low, bushy species borne on a short stem. The bluish-green joints are more or less oval in shape, thick and fleshy, and 4–6in long. Areoles, set about ¾in apart, bear brown glochids and one to three brownish-black reflexed spines ¾–1in in length. It is day flowering in summer; the flowers are deep yellow with reddish bases to the petals, and about 1½in long. Requires sun; normal cactus compost; minimum temperature 55°F. *Mexico (Zacatecas).*



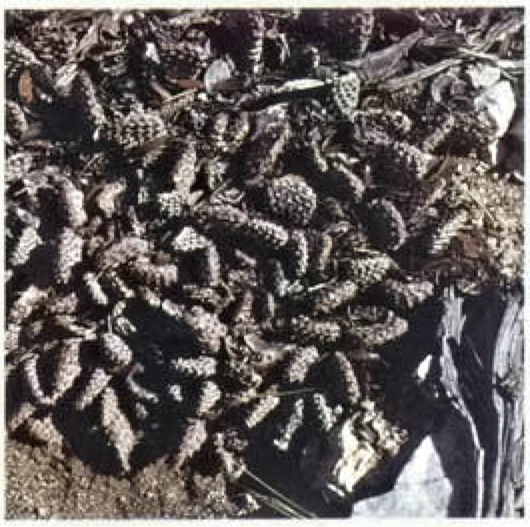
OPUNTIA **BASILARIS** Engelm. & Bigelow

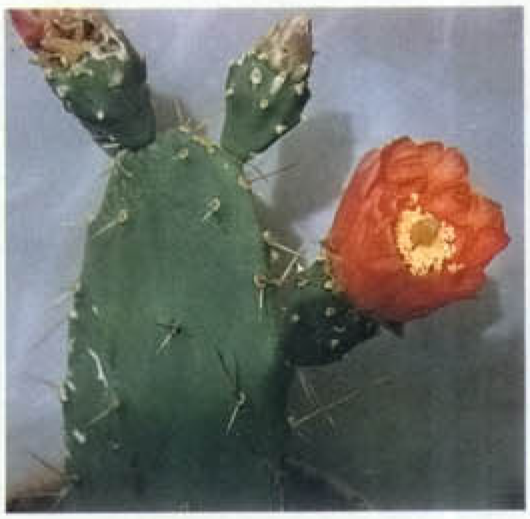
A bush species up to about 3ft high. The joints are almost oval, bluish green or a pale reddish green, and 4–8in long, with a velvety appearance. The areoles are brownish with reddish-brown glochids and sometimes one short spine. Day flowering in early summer, the flowers are reddish purple, 2½–3¼in long and across. Requires a very bright position; a porous enriched mineral compost; minimum temperature 45°F. *Northern Mexico, USA (Arizona, Nevada).*



OPUNTIA **BRACHYCLADA** (Griffiths) Munz
Syn: *Opuntia brachyclada* Griffiths

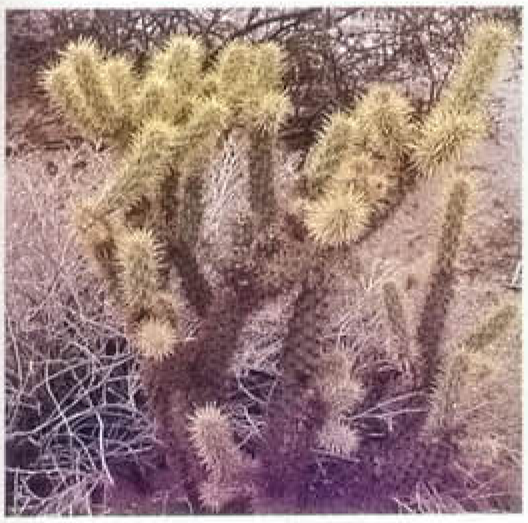
A low-growing, spreading plant with small grayish-green joints 2–3¼in long, 1–1½in wide. They bear many small brownish areoles with brown glochids which are spineless. Flowers are a deep red, cup-shaped and 2–3¼in in diameter; they appear by day, in summer. A choice, quite rare plant. Requires full sun; a normal cactus compost with a little lime added; minimum temperature 45°F. *USA (California).*





OPUNTIA **BERGERIANA** Weber

A tree-like species attaining 6½–10ft in height. The joints are pale to fresh green, 4–10in long, 2–4in wide, with grayish areoles and yellowish glochids. There are two to three spines which are yellowish passing to gray, and ¾–1½in long. It flowers freely in summer, and is diurnal, with bright red blooms up to 2½in diameter. Easy to cultivate, it requires full sun; normal cactus compost; minimum temperature 45°F. *Habitat unknown.*

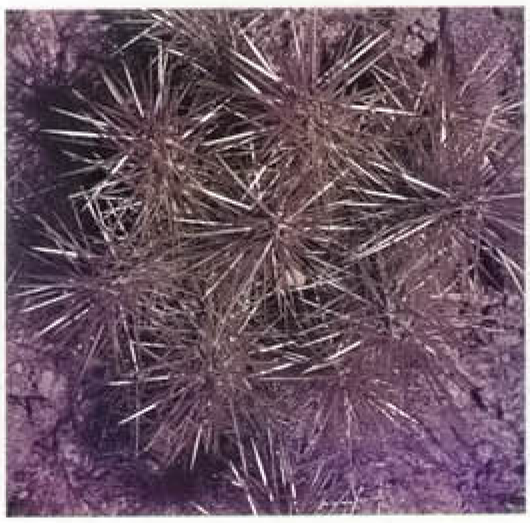


OPUNTIA **BIGELOWII** Engelm.
Syn: *Cylindroipuntia bigelowii* (Engelm.) F. Knuth

An erect, shrubby species up to about 3ft high. The light green joints are cylindrical up to 6in long, 2in thick. Areoles are white with yellow glochids and there are many pale-yellow spines, six to ten radials up to ⅔in long, and six to ten slightly longer centrals. Flowers are purple, about 1½in long and across, and are diurnal, appearing in summer. Requires full sun; a normal cactus compost; minimum temperature 50°F. *USA (California, Arizona), Northern Mexico (Baja).*

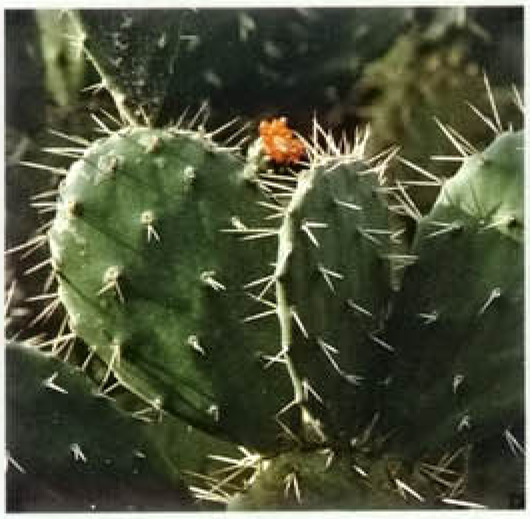
OPUNTIA **BRADTIANA** K. Brand.
Syn: *Grusonia bradtiana* Br. & R.

A low, bushy plant, semi-erect or sprawling, consisting of elliptical or cylindrical grayish-green joints. It has eight to nine ribs with areoles set about ½in apart bearing glochids which soon fall, as do the small leaves. The spines are yellowish white, of which 12 or more are radials up to ¾in long, and four to five are centrals to 2in. Summer flowering, the bright yellow flowers appear by day and are 1–1½in across. Needs a sunny position; normal cactus compost; minimum temperature 50°F. *Mexico (Coahuila).*



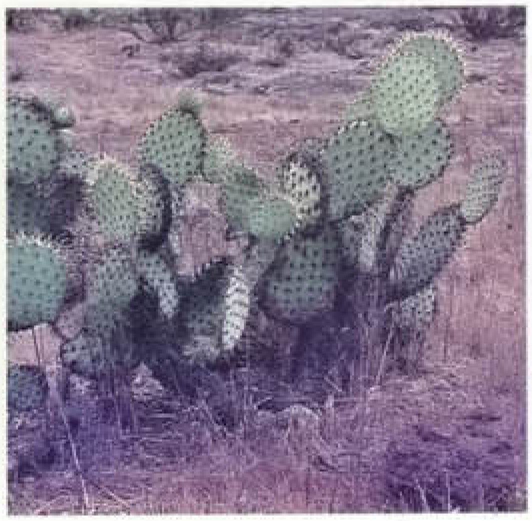
OPUNTIA **BURRAGEANA** Br. & R.

A low, spiny shrub up to about 3ft tall. The dull-green joints are ½–¾in thick and each is about 6in long and more or less cylindrical. The brown areoles are closely set, and bear short yellow glochids and numerous bright yellow spines about ¾in long. It is summer flowering and diurnal; the flowers are reddish, green at the base, and 1–1½in in diameter. Requires bright sun; normal cactus compost; minimum temperature 50°F. *Mexico (Baja).*



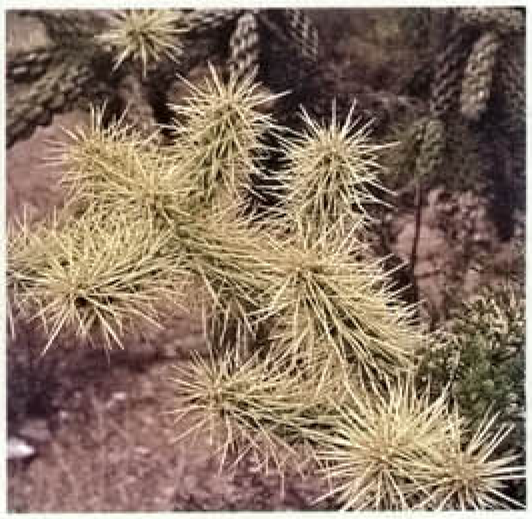
OPUNTIA **CANTERAI** Arech.

A tree-like species about 3ft or little more high. It has slender oblong joints up to 8in long, 1½–2½in broad. The brownish-violet areoles bear up to two whitish, often brown-tipped spines ½–¾in long, but are sometimes spineless. Flowering in late summer, the plant is diurnal, with the blooms lasting several days. The orange flowers are ⅔–1½in in diameter. Requires bright light; normal cactus compost; minimum temperature 55°F. *Uruguay.*



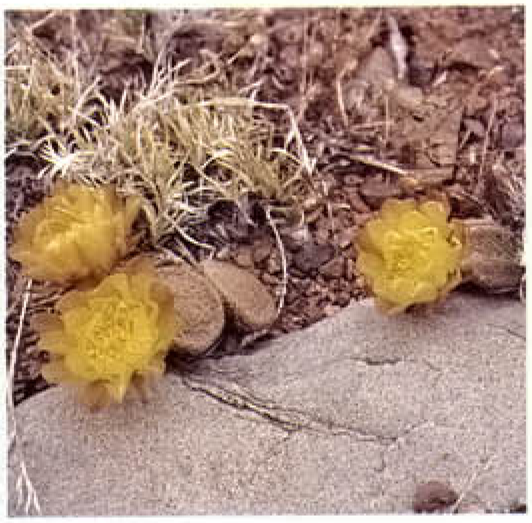
OPUNTIA **CHLOROTICA** Engelm. & Bigelow

A bushy, somewhat tree-like species up to 3ft or more tall. The joints are a pale bluish-green, 4¾–8in long, 4¾–6½in broad with round, grayish areoles. These have yellow glochids and one to six pale yellowish spines which become almost black with age and are ¾–1½in long. Flowers are diurnal, occurring in summer, and are yellow, flushed reddish externally, and about 2in long, 3in broad. Requires full sun; normal cactus compost; minimum temperature 45°F. *Mexico (Sonora, Baja), USA (California, Nevada, New Mexico).*



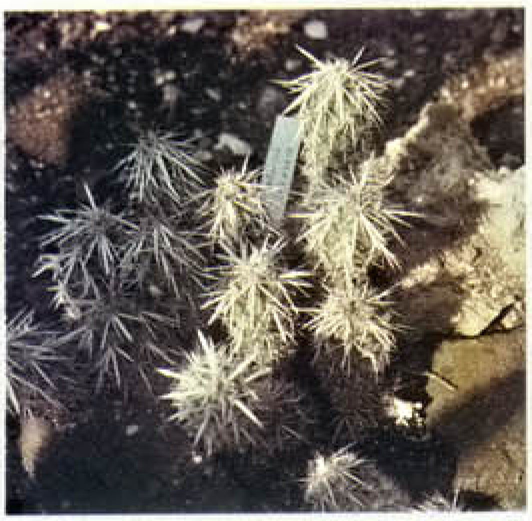
OPUNTIA **CHOLLA** Weber
Syn: *Cylindropuntia cholla* (Weber) F. Knuth

A shrub-like plant 3–10ft tall in its habitat. The dull-green joints are cylindrical to oval, 10in long and 1½–2in thick. The areoles have yellow glochids and numerous yellowish radial spines ½in or more long and one longer central. Flowering by day in mid-summer, the flowers are rose pink and 1–1½in in diameter. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Baja).*



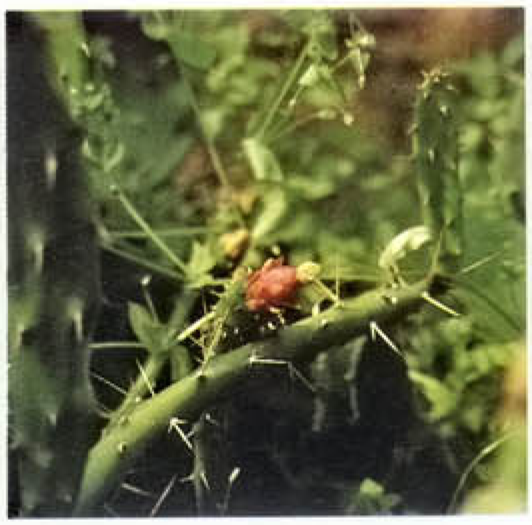
OPUNTIA **CLAVARIOIDES** Pfeiff.
Syn: *Puna clavarioides* Keisl.

A low, bushy, straggling species with grayish-brown joints which are cylindrical, flattish, or fan-shaped. The close-set areoles have four to ten short, white, fine spines. Flowers are brownish yellow and about 2¾in long, 2in across, appearing by day in mid-summer. Needs slight shade; normal cactus compost; minimum temperature 50°F. *Chile, Argentina.*



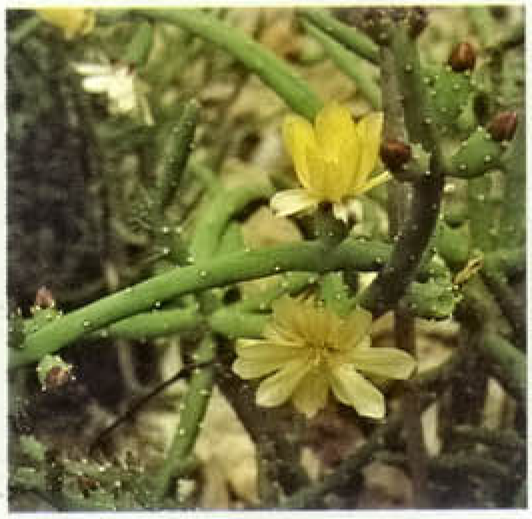
OPUNTIA **CLAVATA** Engelm.
Syn: *Corynopuntia clavata* (Engelm.) Knuth

A clump-forming species with stems up to 3in long, ¾–1in thick. It is more or less oval in shape with close-set areoles and pale yellow glochids. The spines are white, with about 10 radials up to ⅔in long, and four to eight centrals up to 1in. Summer flowering, it is diurnal, with golden-yellow flowers about 1½in long. Requires bright sun; slightly calcareous cactus compost; minimum temperature 45°F. *USA (New Mexico).*



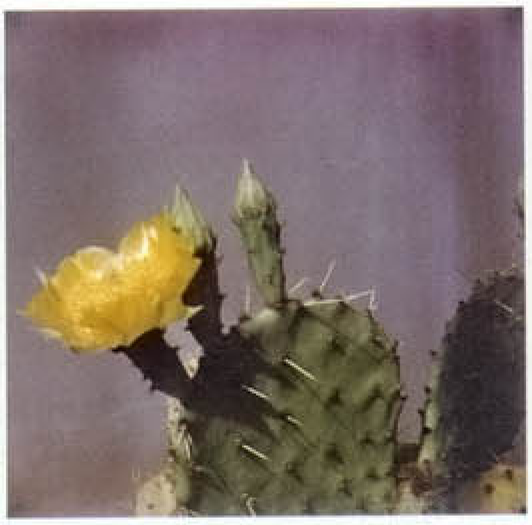
OPUNTIA **COCHINELIFERA** Mill.
Syn: *Nopalea cochenillifera* (L.) Salm-Dyck (specific title variously spelt)

A tree-like species 10–13ft high with glossy green, obovate-elongated joints 3¼–10in long, 2–4¾in wide. The areoles are set far apart with a few yellow glochids; they are either spineless or have two to four spines ⅓–⅔in long. A summer flowering plant, and diurnal, the flowers are 2½–3in long and reddish pink. Requires a bright location; normal cactus compost; minimum temperature 55°F. *Tropical Central America.*



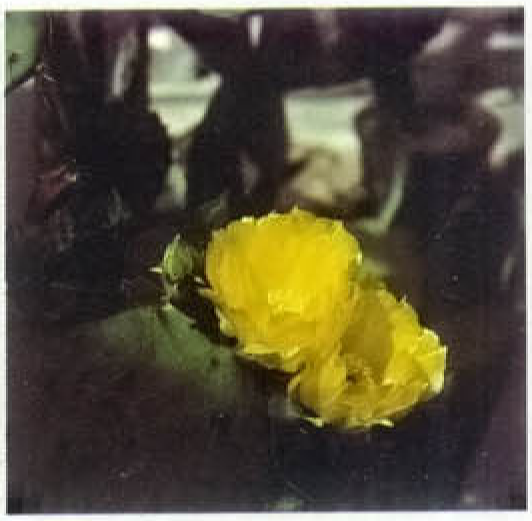
OPUNTIA **COLUBRINA** (Cast.) Backeb.

A rarely encountered, slender cylindrical plant to 3ft high with dull-green, almost bluish-green joints 2½–7in long and about ½in thick. It has a few areoles bearing minute whitish glochids and one to three bristly whitish spines ⅕–⅓in long. The flowers are citron yellow, about 2¼in in diameter, and are followed by purplish-red fruits. They bloom in mid-summer, and are diurnal. Requires sparse shade; normal cactus compost; minimum temperature 55°F. *Argentina (Formosa).*



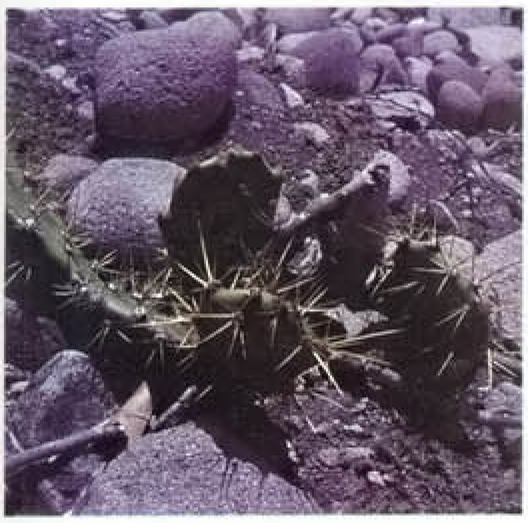
OPUNTIA **COMPRESSA** (Salisb.) Macbr.

A clump-forming species with dull to grayish-green more or less orbicular joints 4–6½in long, 2½–4¾in broad. It has brown areoles and glochids, and only one spine to an areole; these are 1–1½in long, and grayish. It is a summertime plant, day flowering, with bright yellow flowers 1½–2½in in diameter. Requires sun; normal cactus compost; minimum temperature 45°F. *USA (Southern States).*



OPUNTIA **COMPRESSA var. FUSCOATRA** (Engelm.) Weniger
Syn: *Opuntia fuscoatra* Engelm.; *Opuntia macateei* Br. & R.

This is a more or less prostrate plant with bright-green to bluish-green joints up to about 4in long, 3–3¼in wide, and somewhat club-shaped. The areoles have clusters of reddish-brown glochids and one to three yellowish, becoming grayish, spines ¼–2in in length. It flowers in mid-summer and is diurnal, with sulfur-yellow flowers, to about 4in in diameter. Requires full sun; normal cactus compost; minimum temperature 45°F. *USA (Texas).*



OPUNTIA **DILLENII** (Ker.) Haw.
Syn: *Opuntia horrida* Salm-Dyck.

A densely branched, often rather sprawling bush with dark-green obovate joints 8–10in long bearing large areoles with yellow glochids. Spines vary considerably; they are sometimes absent, or there may be several, up to 10, yellowish ones ½–1½in long. These may be either straight, twisted, or decidedly curved. The flowers are pale yellow and up to 3¼in long, flowering by day in late summer. Requires full sun; very porous enriched mineral compost; minimum temperature 55°F. *West Indies, Tropical South America, USA (Florida), Mexico.*

OPUNTIA **DISCOLOR** Br. & R.

A semi-prostrate plant with very dark green joints 2–6in long, ½–1in thick, and almost cylindrical in shape. It has dark brown areoles with brown glochids. There are usually two or three grayish-brown spines, ½–1in in length. Flowers are bright yellow, about 1in across, and bloom by day in summer. Needs good, bright light; normal cactus compost; minimum temperature 50°F. *Argentina.*

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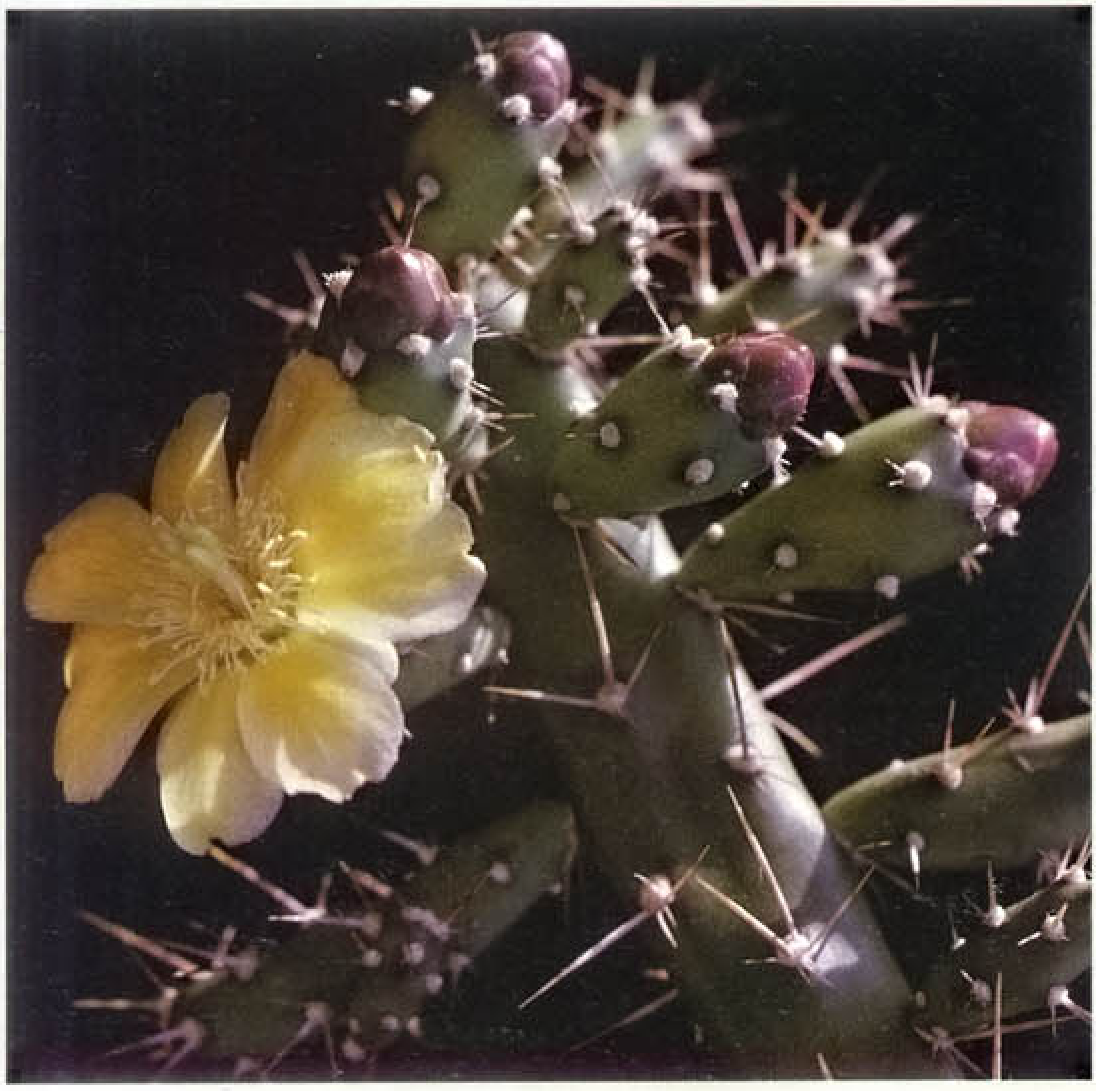
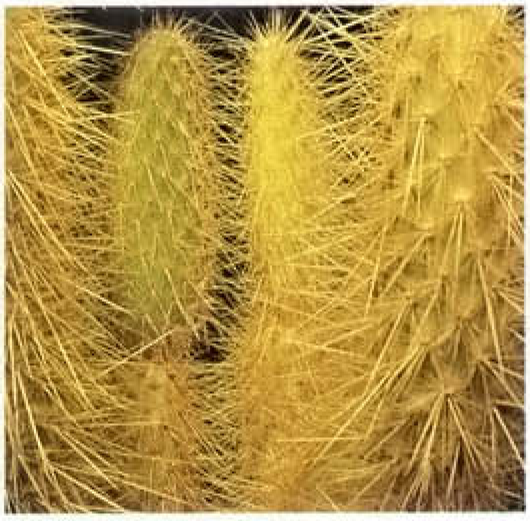
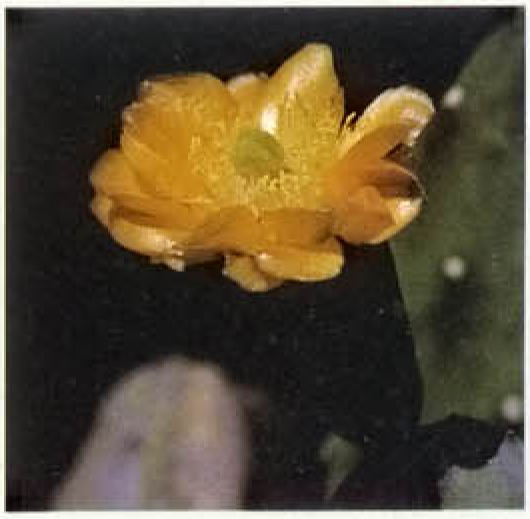




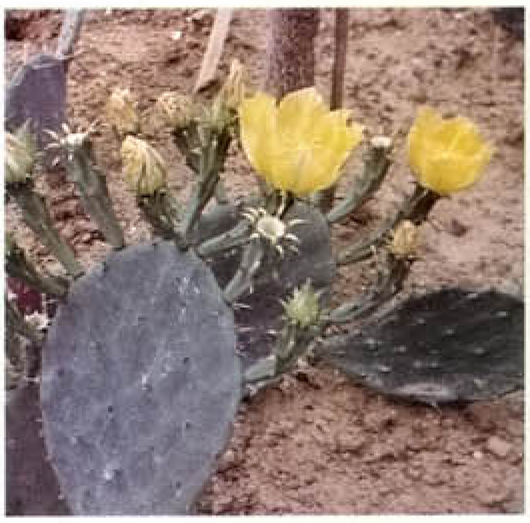
OPUNTIA **ECHIOS** How.
Syn: *Opuntia galapageia* var. *echios* (How.) Backeb.

Tree-like plants up to 26ft high and much branched. The joints are bright green, ovoid to elliptical, and up to 1ft long with woolly areoles and yellow glochids. The plant has yellowish-brown spines 4½–5in long, some of them spreading, others downward pointing, and golden-yellow flowers about 3in which are diurnal, in summer. Requires bright sun and warmth, which are essential; normal cactus compost; minimum temperature 59°F. *Galapagos Islands.*



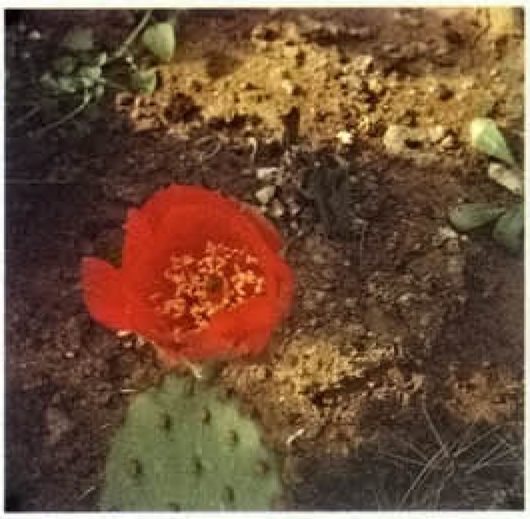
OPUNTIA **ELATA** Link & Otto

A fairly tall, bushy species with bright green, smooth, elongated joints 6–10in in length and up to 6in wide. The white woolly areoles are set well apart. Spines are often absent, but there is usually one about 1in long on younger growth, and older joints are more spiny. Flowering in late summer, it is diurnal. The flowers are pale orange-yellow with prominent yellowish white stamens. Needs good light; normal cactus compost; minimum temperature 50°F. *Paraguay.*



OPUNTIA ENGELMANNII Salm-Dyck

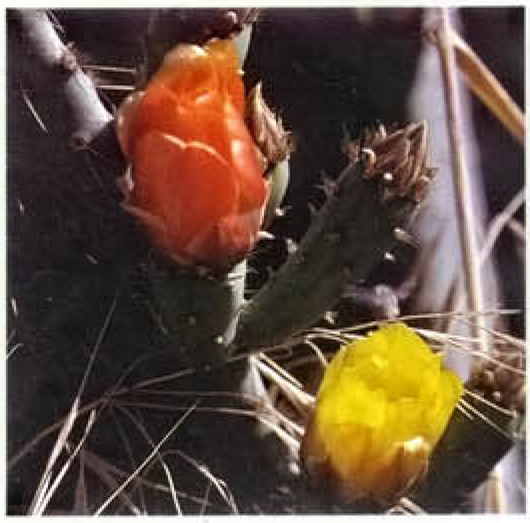
A most variable species, medium to bluish green, and up to about 4ft 9in high. The joints are broadly oval, 8in–1ft long. Areoles with brownish wool bear brownish glochids and have from one to several yellowish or grayish spines up to ¾in long. The flowers are diurnal, appearing in early summer, and are a clear sulfur yellow and up to about 2in diameter. Requires full sun; normal cactus compost; minimum temperature 50°F. *Widespread in Mexico & Southern USA States.*



OPUNTIA ENGELMANNII var. ACICULATA (Griffiths) Weniger

Syn: *Opuntia aciculata* Griffiths; *Opuntia lindheimeri* var. *aciculata* Bravo

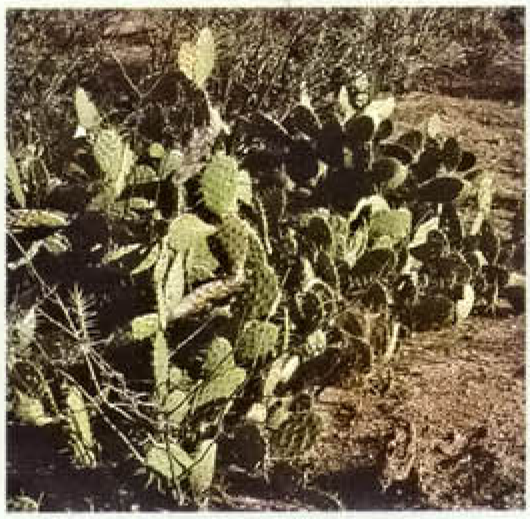
In its manner of growth this is similar to the species: the joints are 5–8in long, dark green with areoles bearing dense tufts of reddish-brown glochids. They have one to three brownish spines, occasionally more, 1–2¼in long. Flowering in early summer, it is diurnal; the flowers are reddish magenta or orange, rarely yellow, and 3¼–4in in diameter. Requirements are the same as for the species. *USA (Texas), Mexico (Nuevo Leon).*



OPUNTIA ENGELMANNII var. LINGUIFORMIS (Griffiths) Weniger

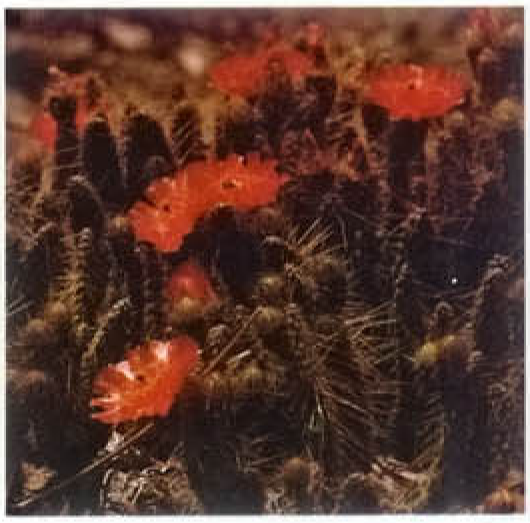
Syn: *Opuntia linguiformis* Griffiths; *Opuntia lindheimeri* var. *linguiformis* (Griffiths) L. Benson

An upright or sprawling plant. The pale green, elongated joints are 8in–1ft 3in long, about 4in wide, and the areoles are brown with yellowish glochids. They have one to five yellowish spines, ½–¾in long. Mid-summer flowering, and diurnal, the flowers are yellow or orange, often on same plant, and about 3in in diameter. Requirements are the same as for the species. *USA (Texas).*



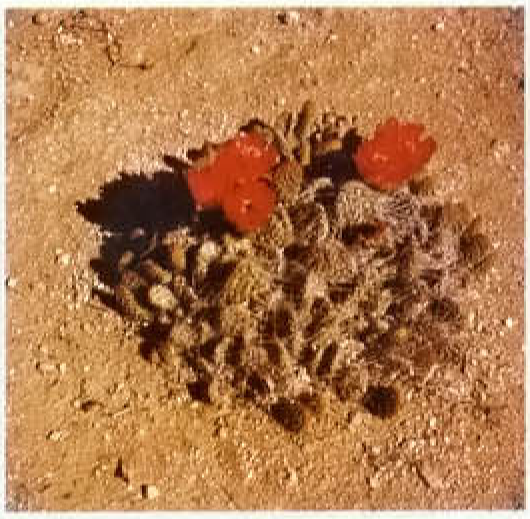
OPUNTIA ENGELMANNII var. TEXANA (Griffiths) Weniger

In general, this is very similar to the species. The areoles are scarcely woolly and set well apart, with few glochids and one to three or more slender pale yellowish spines, ¾–1in long, especially from the upper areoles. Flowers are yellow, 3¼–4in in diameter, and appear by day in mid-summer. Requirements are the same as for the species. *USA (Texas), Northern Mexico.*



OPUNTIA ERECTOCLADA Backeb.

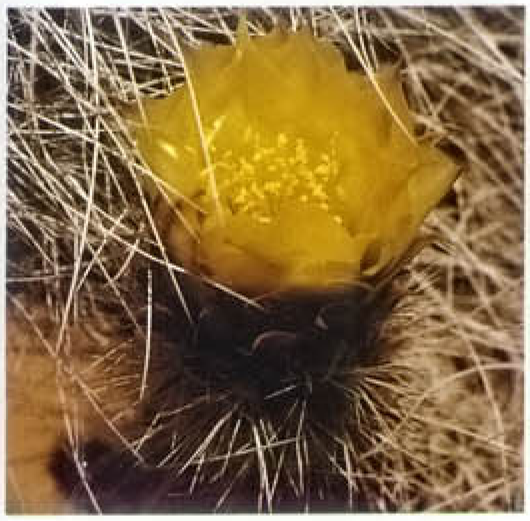
A clump-forming species, the dark-green joints are about 2in long, 1½in wide, and narrowly oblong and flat. Areoles have reddish-brown glochids and spines, usually two to four per areole. The flowers are bright carmine, about 1½in diameter, and are day flowering in summer. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Argentina.*



OPUNTIA ERINACEA Engelm. & Bigelow

Syn: *Opuntia hystricina* var. *bensonii* Backeb.

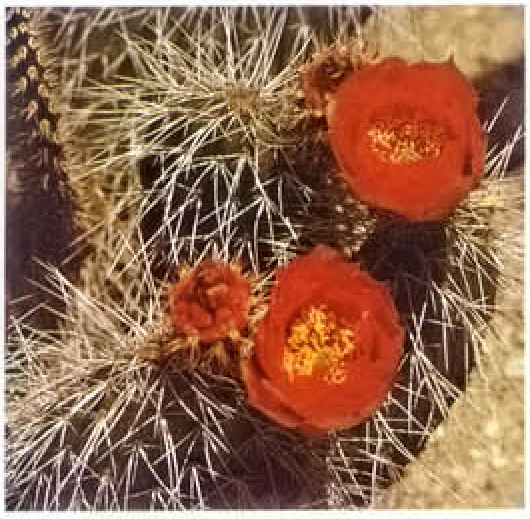
A clump-forming plant with bluish-green, more or less oblong joints 2–6in long, 1½–2½in wide. It has fairly close-set areoles armed with yellowish glochids and many whitish spines up to 2in in length. Day flowering in mid-summer, the flowers are about 2½in broad, and usually deep red. Requires sun; slightly calcareous cactus compost; minimum temperature 45°F. *USA (Southern States).*



OPUNTIA **ERINACEA var. URSINA** (Weber) Parish

Syn: *Opuntia hystricina* var. *ursina* (Weber) Backeb.

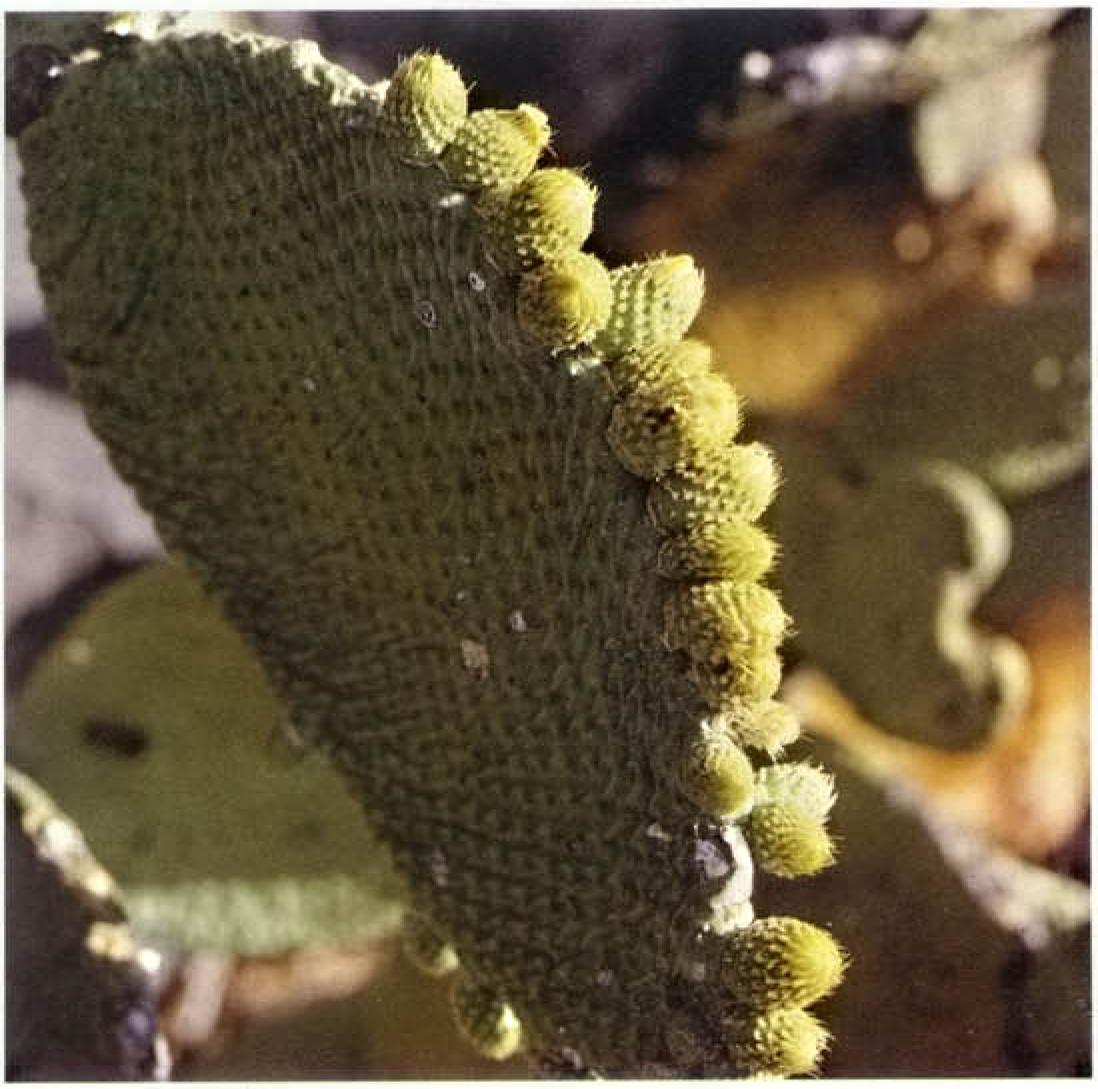
Generally similar to the species in respect of the joints, the principal feature being the numerous grayish-white long spines which are very flexuous and curving, and are 3¼–4in long. The flowers are yellowish, about 3¼in broad, and appear by day in early summer. Requires a sunny position; normal cactus compost with lime chippings added; minimum temperature 45°F. *USA (Arizona, California, Nevada, Utah).*



OPUNTIA **ERINACEA var. UTAHENSIS** (Engelm.) L. Benson

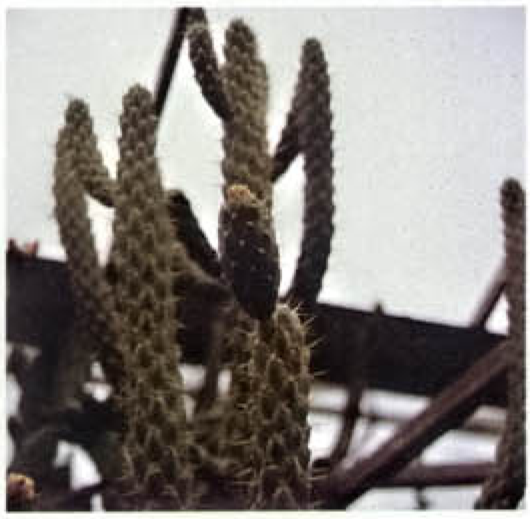
Syn: *Opuntia erinacea* var. *rhodantha* L. Benson

Similar to the species: the joints are obovate, 2–3½in long, 2–3¼in broad, with numerous grayish-white spines in the upper areoles, 1–2in long, straight or recurving. Flowering by day in early summer, the flowers are red, and about 3¼in across. Requires full sun; normal cactus compost with lime chippings added; minimum temperature 45°F. *USA (Northern Arizona, California, New Mexico).*



OPUNTIA **ESTEVESII** Braun

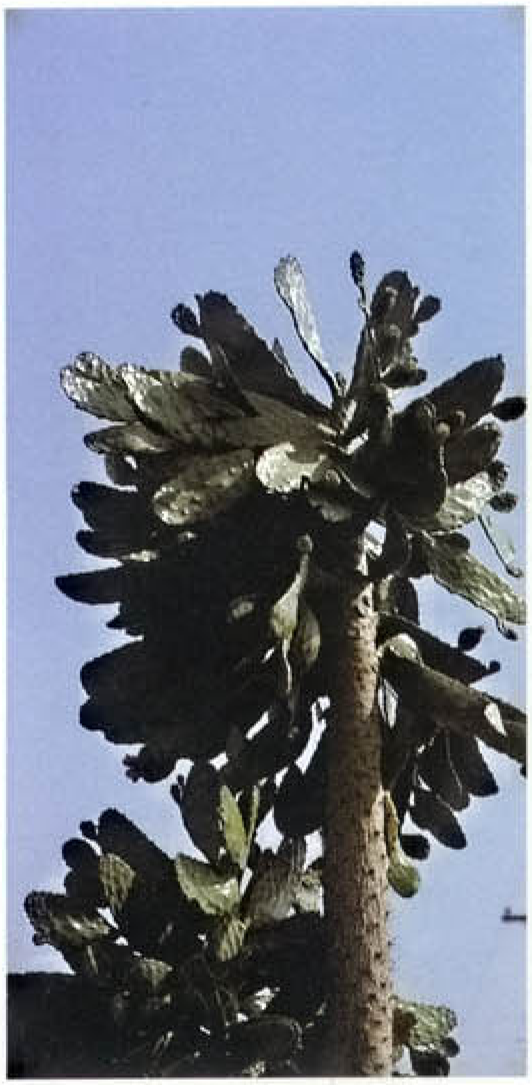
A very recently introduced species of which little is known in cultivation. It is named for the discoverer, Esteves Pereira. The large grayish to bluish-green joints have numerous areoles arranged in rows, bearing minute brown or blackish spines. Flowers are unknown, but presumably they are diurnal in summer, requiring bright light; normal cactus compost; minimum temperature 50°F. *Brazil (Bahia).*



OPUNTIA **EXALTATA** Berger

Syn: *Austrocylindropuntia exaltata* (Berger) Backeb.

Closely allied to *O. subulata*, this is a tree-like species up to nearly 20ft tall in its habitat, having more or less cylindrical leaves about 3in long. The grayish-green stems and joints are cylindrical, with areoles bearing a few spines initially, later up to 12 or more; these are darkish yellow to reddish brown. Flowering by day in summer, the flowers are more or less brick red, 2½in or more across. Fruits red. Needs sun; normal cactus compost; minimum temperature 55°F. *Ecuador, Peru, Bolivia.*



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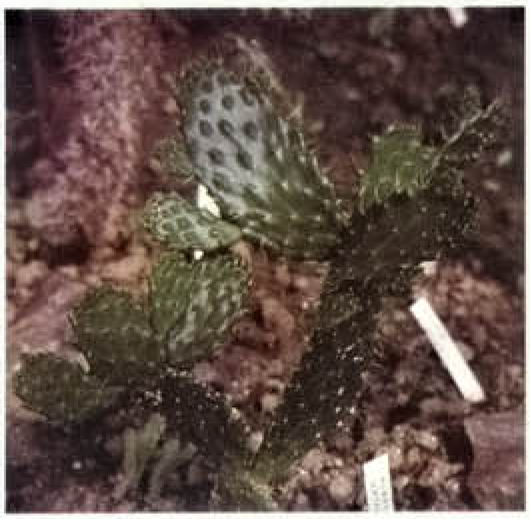

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OPUNTIA **FALCATA** (F. Knuth)
Syn: *Consolea falcata* (Ekm. & Werd.) F. Knuth

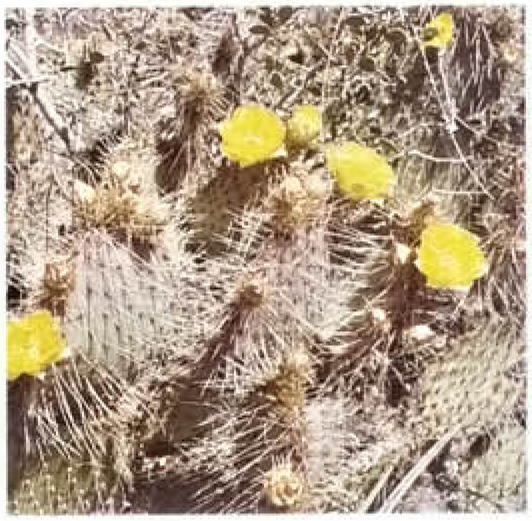
Tree-like plants up to about 4ft 9in high, with dark glossy-green joints to 1ft 2in long, 3½in broad. The flattened surfaces are marked with somewhat obscure prominences. Areoles, which are whitish, bear two to eight pale brownish or yellowish spines ½in or more long; these are rough and needle-like. The reddish flowers, 1–2in across, appear in summer, and are diurnal. Requires light shade; normal cactus compost; minimum temperature 55°F. *Haiti.*

OPUNTIA **FICUS-INDICA** (L.) Mill.

Probably the most common member of the *Cactaceae*, having been cultivated and naturalized in many parts of the world. It is a tree-like plant 10ft or more tall, the grayish-green joints 8in–1ft 3in long, 4–8in broad with whitish areoles and yellow glochids. Usually spineless, more occasionally there are one or two thick, straight spines. Flowering in the daytime in summer, the flowers are yellow, and about 2¾in long. Requires full sun; normal cactus compost; minimum temperature 50°F. *Tropical America.*

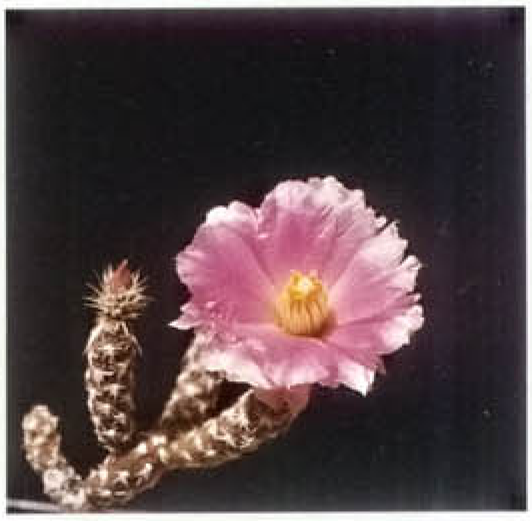
OPUNTIA **FULGIDA** Engelm.
Syn: *Cylindropuntia fulgida* F. Knuth

A tree-like plant 3–10ft high with a thick cylindrical stem, branching above. The joints are grayish-green, 4–8in long and 1½in thick. The small areoles bear pale yellowish glochids with about 10 brownish or yellowish spines with white sheaths, 1–1⅓in long. Flowering by day in mid-summer, the flowers are rose pink and about 1in across. Needs full sun; slightly calcareous cactus compost; minimum temperature 50°F. *USA (Arizona), Mexico (Sonora).*



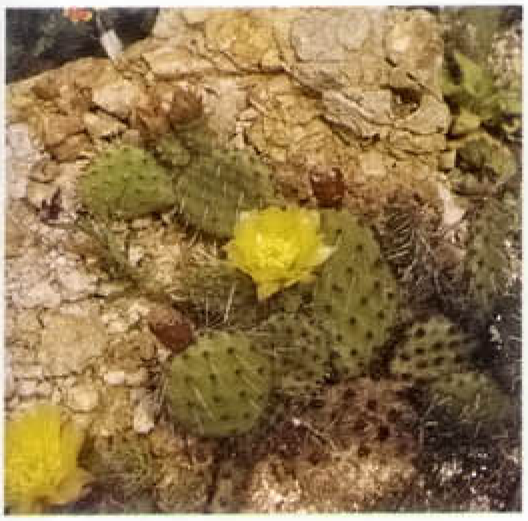
OPUNTIA **GOSSELINIANA** Weber

A glaucous-green, densely bushy species up to 3ft high with more or less orbiculate joints 3¼–7in wide, slightly less long, and up to ½in thick. Areoles carry tufts of yellowish-brown glochids and one to five twisting, flexuous whitish spines ¾–2in long with one up to 4in. Summer flowering, and diurnal, the flowers are 2½–3½in across, deep yellow with pale reddish bases to the petals. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Baja, Sonora).*



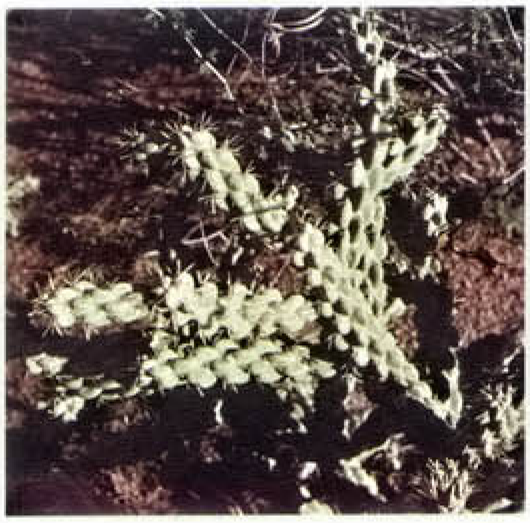
OPUNTIA (Micropuntia)
GRACILICYLINDRICA Wiegand & Backeb.

A small, slender species, often with a short stem and fairly long cylindrical joints up to 8in long, ¼–⅖in wide. The areoles are minute, white felted, and bearing 16 or more fine, white radial spines 1/10–¼in long and one central slightly longer. It flowers by day in early summer with rose-pink flowers 1–1½in wide. Requires good light, which is essential; slightly calcareous compost; minimum temperature 50°F. *USA (Nevada).*



OPUNTIA HYSTRICINA Engelm. & Bigelow

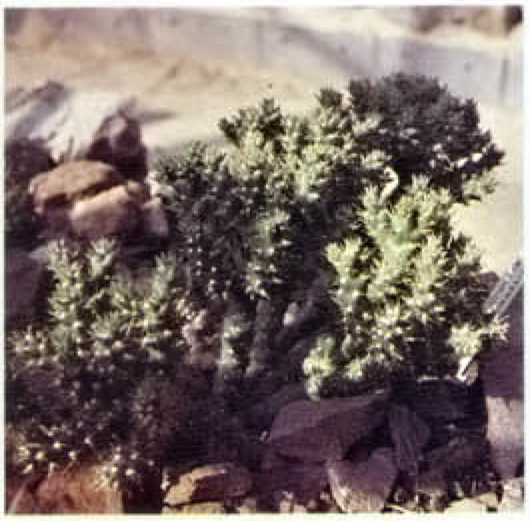
A low-growing, clump-forming species with almost circular dark-green joints 3¼–5in long, 2½–4in broad. The areoles are close-set with pale-brown glochids and six to fifteen spines which are brownish, becoming gray, and ½–3¼in long. It is day flowering in summer; the flowers are generally bright yellow and 2–3¼in in diameter. Needs a sunny position; normal cactus compost; minimum temperature 45°F. *USA (Nevada, Arizona, New Mexico).*



OPUNTIA IMBRICATA var. ARBORESCENS (Engelm.) Weniger

Syn: *Opuntia arborescens* Engelm.

A bushy or low tree-like plant, 3–10ft high, but the size can be most variable. Joints are more or less cylindrical, ranging from 2–6in or more long, ¾in or a little more thick, covered with elongating tubercles, ⅕–¼in high. The areoles have few glochids and two to ten pale-brownish spines ½–1½in long, and the flowers are pinkish or lavender colored and up to 3in across. Requirements are the same as for the species. *USA (New Mexico, Northern Mexico).*



OPUNTIA IMBRICATA var. VIRIDIFLORA (Br. & R.) Weniger

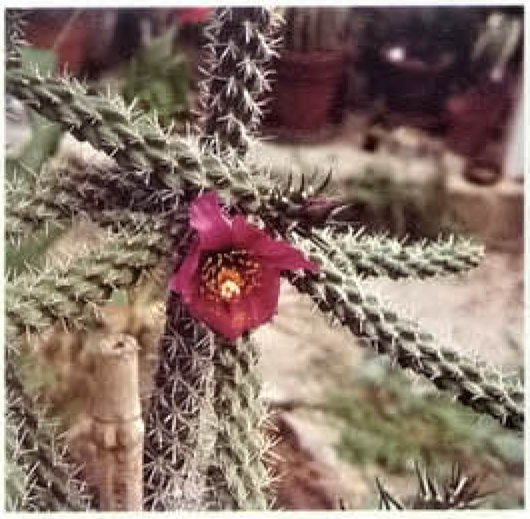
Syn: *Opuntia viridiflora* Br. & R.

A bush-like species 1–2ft high, generally more dwarfed in cultivation. It has joints from 2–3in long, to ¾in thick, more or less cylindrical and covered with tubercles. The grayish areoles bear tufts of yellowish glochids and five to seven spines up to ¾in long. Flowers are greenish, tinged reddish, and are 1½–2in long. Requirements are the same as for the species. *USA (New Mexico).*

OPUNTIA IMBRICATA Haw.

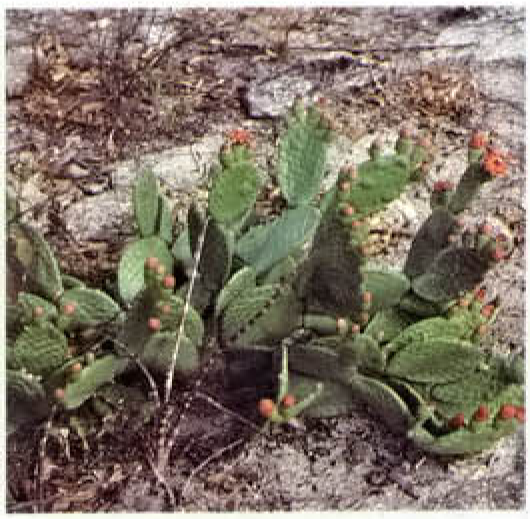
Syn: *Opuntia decipiens* DC.

A green to bluish-green, low species about 10ft high, much branched. The joints are 3–8in long, 1–1½in thick, with prominent tubercles and large yellowish areoles with few glochids. It has 10–30 spines to an areole; reddish or whitish and ½–1in long. Flowers, diurnal in summer, are variable: they may be purplish, reddish, or yellowish and are mainly 1½–3¼in across. That shown is associated with *O. decipiens*. Requires full sun; normal cactus compost; minimum temperature 50°F. *USA (Southern States) to Central Mexico.*



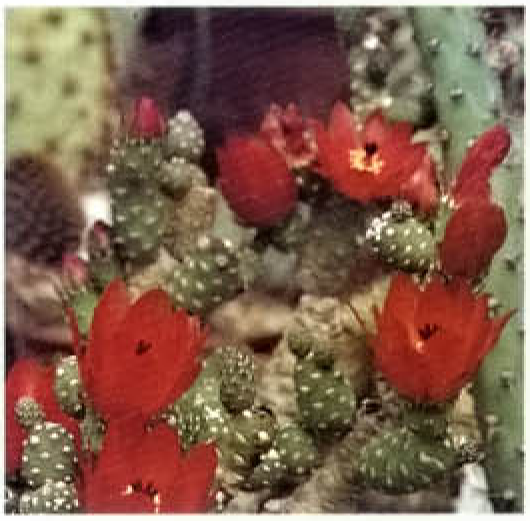
OPUNTIA IMBRICATA var. LLOYDII (Rose) Bravo

Somewhat similar to O. *imbricata* var. 'Arborescens', with rather longer joints about 1in thick and five to ten grayish-white spines, ¼–⅖in or slightly more long. Summer flowering, it is diurnal with dull-purplish blooms, 1–1½in in diameter. Requirements are the same as for the species. *Central Mexico.*



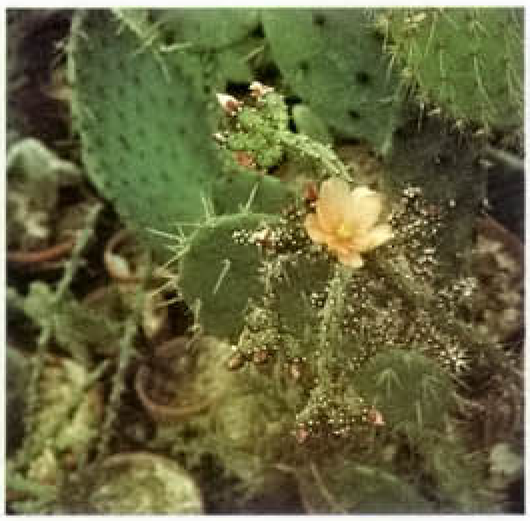
OPUNTIA INAMOENA K. Sch.

A low-growing species rarely exceeding 2ft high. The joints are brownish green or bluish green and 3¼–6⅓in long, 2–3in wide, often to 1in thick. The small areoles have whitish glochids, which are usually spineless. Summer flowering, it is diurnal with brick-red flowers 1–1⅓in long, 1½in across. Needs a bright position, which is essential; normal cactus compost; minimum temperature 55°F. *Brazil (Pernambuco).*



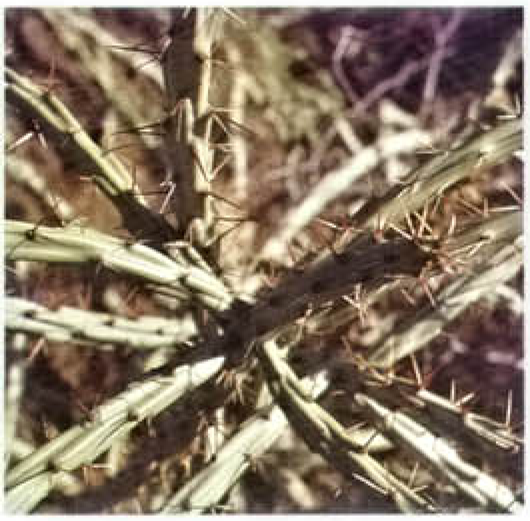
OPUNTIA **INARMATA Backeb.**
Syn: *Austrocylindropuntia inarmata* Backeb.

A low-growing, clump-forming species, olive-green in color with oblong joints 1–2in long, ⅔–¾in broad. It has large white areoles bearing a few bristles which quickly fall, and minute glassy-white glochids which are more or less spineless. Day flowering, in late summer, the flowers are a bright deep red, about 1½in in diameter, with a stigma with blackish-violet lobes. Requires full sun; normal cactus compost; minimum temperature 55°F. *Bolivia.*



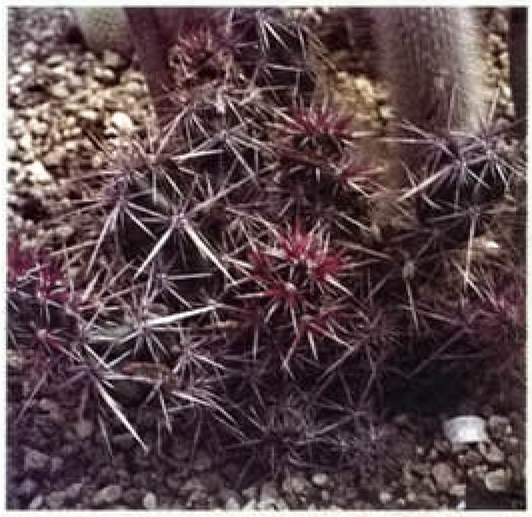
OPUNTIA **IPATIANA** Card.

Very closely allied to *O. salmiana* , this is a low-growing plant 1ft–1ft 3in high. The main stem is green, often slightly purplish, and about ⅔in thick with cylindrical branches 3–3¼in in length. The white areoles set at ⅓in intervals have pale yellowish glochids and five to nine brownish-white spines, some soon falling, others ½–¾in long. Summer flowering, and diurnal, the flowers are a pale orange-pink, about 1⅓in long. Needs a bright position; normal cactus compost; minimum temperature 55°F. *Bolivia (Santa Cruz).*



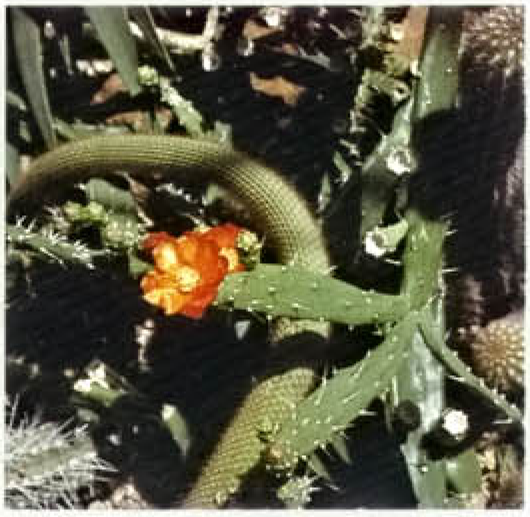
OPUNTIA **KLEINIAE** DC. **var. TETRACANTHA** (Toumey) Earle
Syn: *Opuntia tetracantha* (Toumey) F. Knuth

A bushy plant to over 3ft in height. The branches are about 1ft long, ⅔in thick, with prominent tubercles to ¾in long. The brown areoles bear three to six, usually four, brownish spines, up to 2in long. Flowers appear by day, in summer, and are orangy red or yellowish green suffused with purple and 1–1⅓in in diameter. Needs full sun; slightly calcareous compost; minimum temperature 45°F. *USA (Arizona).*



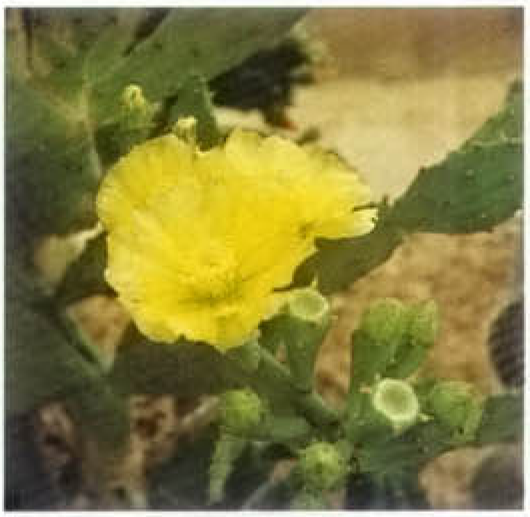
OPUNTIA **INVICTA** Brandegee

A bushy plant rarely more than 1½ft tall. It has dark-green short cylindrical joints 3¼–4in long, 2½–3in thick with long, low-set tubercles. The areoles are white with a few white glochids and about 20 straight and curving spines up to 1in in length, which are red at first then becoming grayish. It flowers by day in mid-summer; the blooms are bright yellow, about 2in across. Requires full sun; normal cactus compost; minimum temperature 55°F. *Mexico (Baja).*



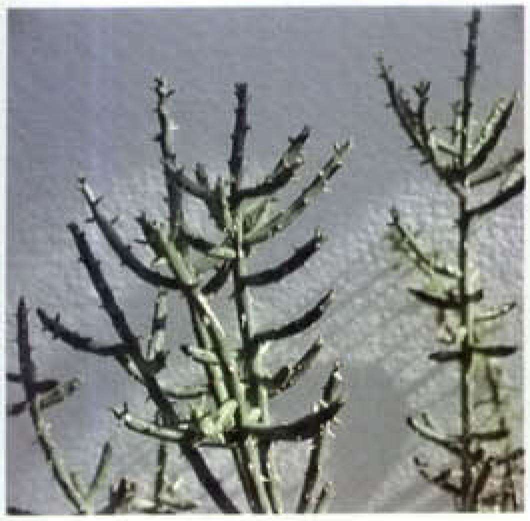
OPUNTIA **KISKA-LORO** Speg.

A semi-prostrate, spreading species with glossy green, flat joints up to 1ft long, 1¾in broad, and more or less lance-shaped. There are a few small, whitish areoles with one or two pale spines, up to 1½in long. It is diurnal, flowering in late summer with rich orange blooms, 1½–2in across. Needs bright light; normal cactus compost; minimum temperature 50°F. *Argentina (Catamarca).*



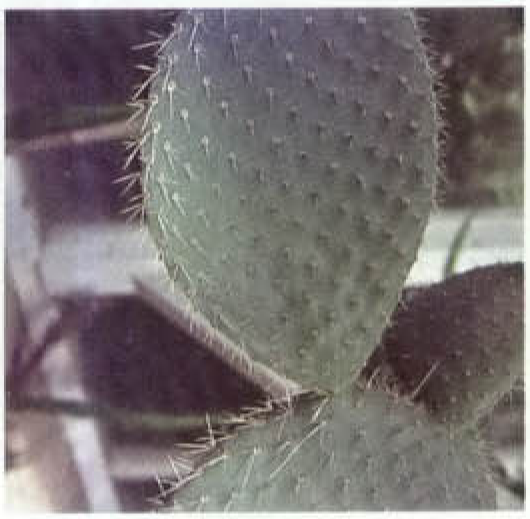
OPUNTIA **LANCEOLATA** Haw.

A tree-like plant to over 6½ft high. The bright green joints are lanceolate and up to 1ft long, 3¼in broad, with areoles bearing yellowish-brown glochids and one or two whitish spines up to ½in long which soon fall. Flowering by day in early summer, the flowers are sulfur yellow with green outer segments, 2in broad, 2¾in long. Requires full sun; normal cactus compost; minimum temperature 59°F. *West Indies, South America.*



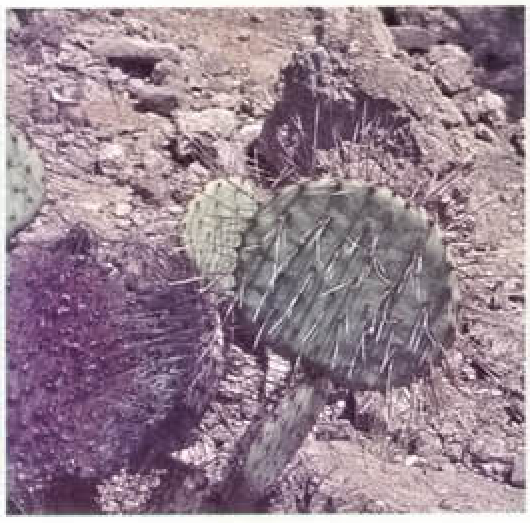
OPUNTIA **LEPTOCAULIS** DC.

A most variable bushy plant to over 3ft high. The joints are green, ⅕in or a little more thick, and slightly warty. The areoles bear tufts of yellowish glochids and one to three brownish spines ¾–2in in length. Flowers are yellowish, about ¾in long, and appear by day in mid-summer. Requires a bright position; normal cactus compost; minimum temperature 45°F. *Mexico, USA (Texas, New Mexico, Arizona).*



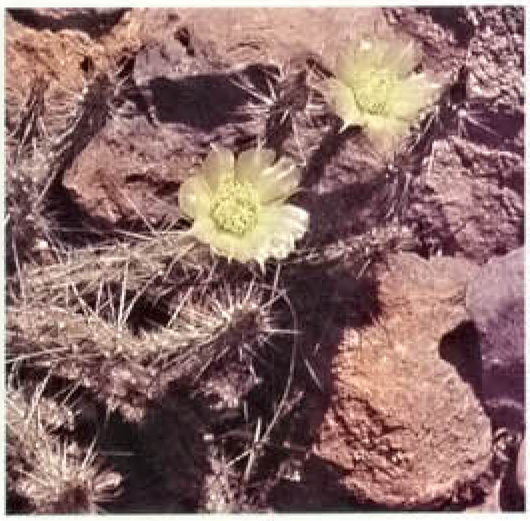
OPUNTIA **LEUCOTRICHA** DC.

A tree-like plant which attains 10–13ft in height in the wild and branches freely. Joints are somewhat oval in shape, up to 10in long, 4¾in wide, and covered with dense whitish-gray velvety hairs. The close-set areoles are white with yellowish glochids and one to three prominent white spines 2–3¼in long. Flowering in mid-summer, and diurnal, the flowers are a rich yellow, with a red style and green stigma lobes, and are 2½–3¼in across. Needs sun; an enriched mineral compost; minimum temperature 50°F. *Central Mexico.*



OPUNTIA **MACROCENTRA** Engelm.

A bushy plant up to nearly 3ft tall. The joints are dark, almost bluish green, oblong or nearly rounded, and 4–8in long, about 6in wide. Areoles are grayish with brown glochids and one to three brown to blackish slender, erect spines 1¾–2¾in long. Flowers are yellow with a red center, about 2in long, 3in across, appearing in summer, and are diurnal. Needs a very sunny position; normal cactus compost; minimum temperature 45°F. *USA (Texas, Arizona), Northern Mexico.*



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OPUNTIA **MARENAE** S. H. Parsons
Syn: *Marenopuntia marenae* (S. H. Parsons) Backeb.

A low-growing spiny species with long, slender dark-green or brownish-green joints 2–6in long, ½–¾in thick. Areoles are whitish-yellow with a few minute glochids and eight to nine spreading spines, including one or two much longer, about ⅔in in length. Flowering by day in mid-summer, the flowers are yellowish with pinkish outer segments, and 1½–2¼in in diameter. Requires a sunny position; slightly calcareous cactus compost; minimum temperature 50°F. *Mexico (Sonora).*

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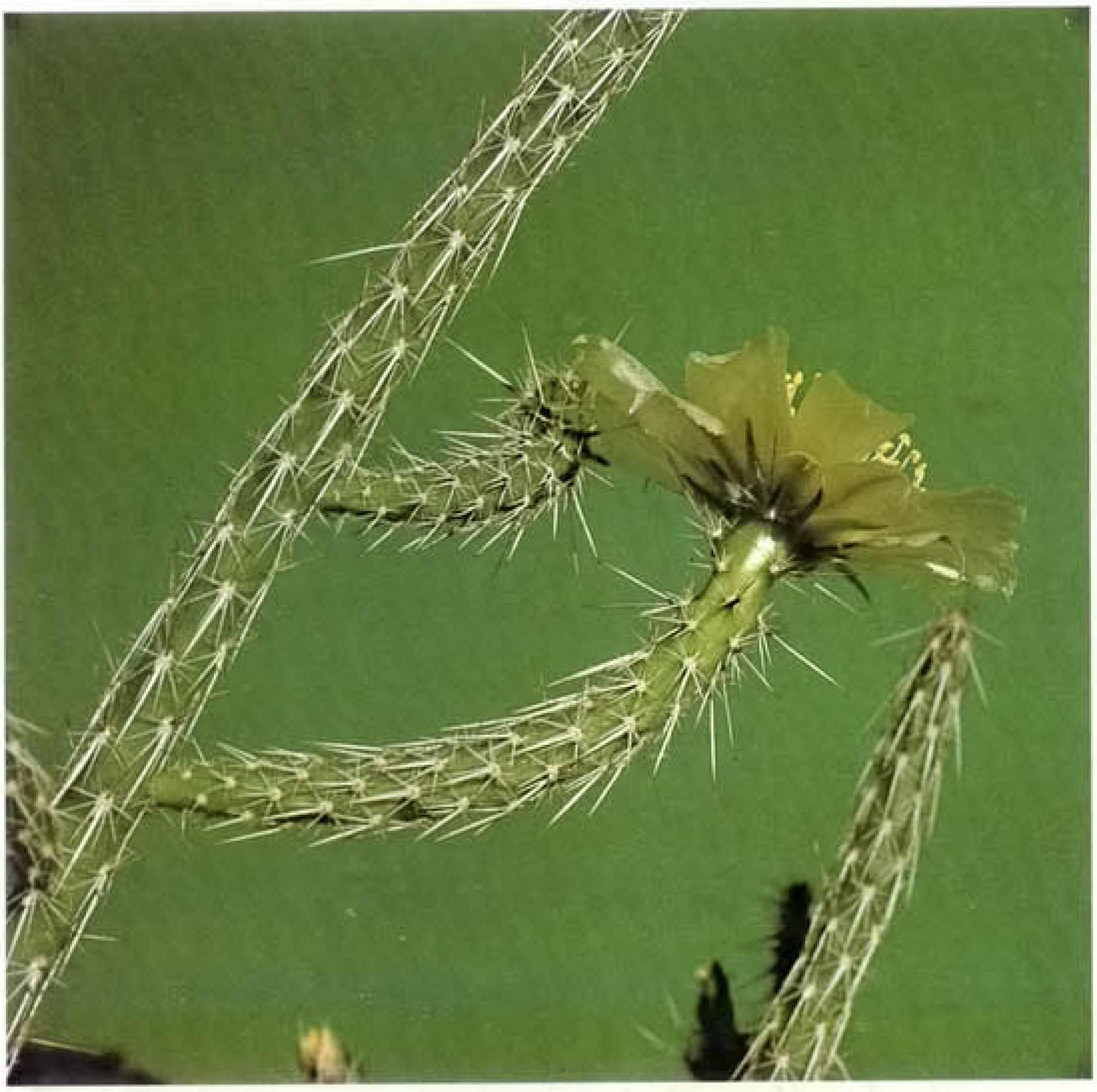
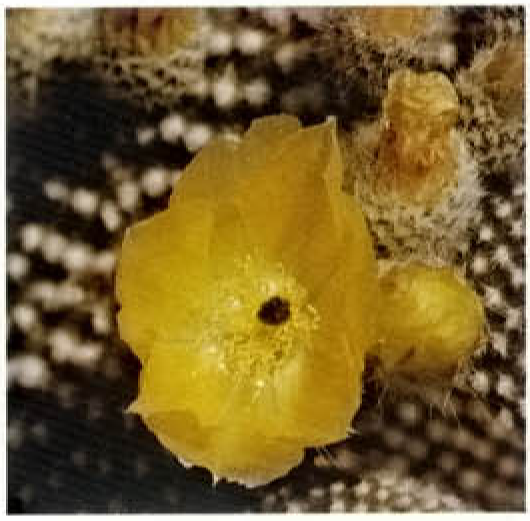
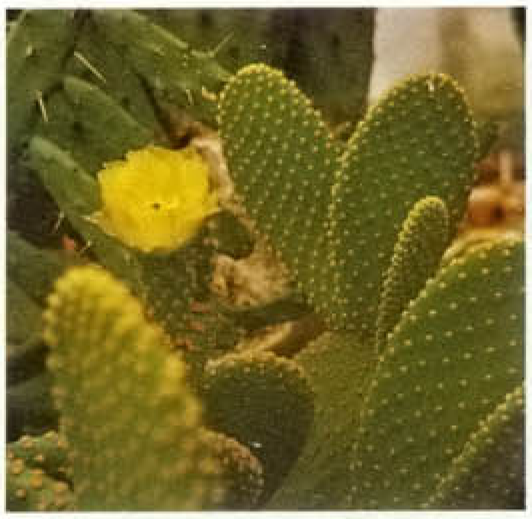




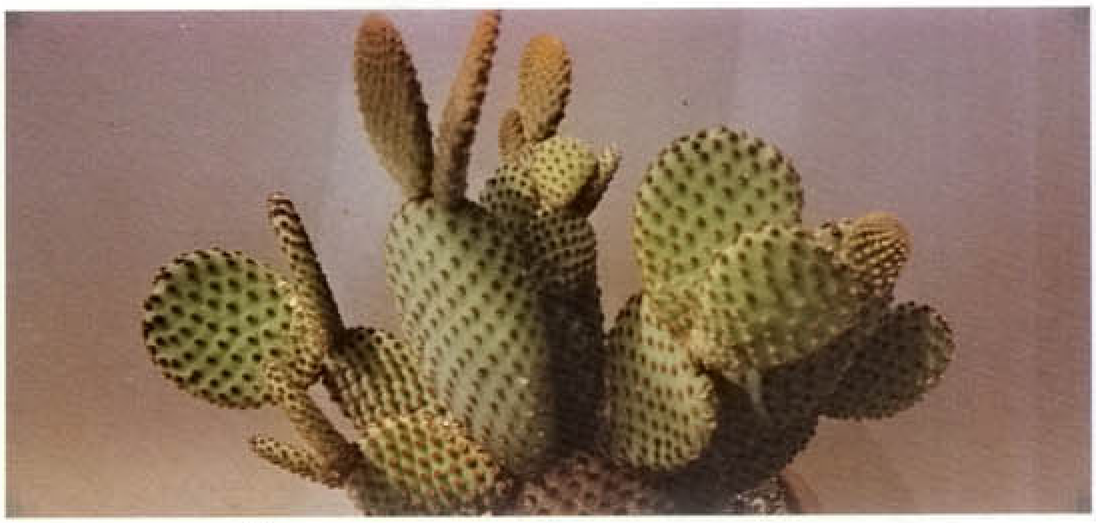
OPUNTIA **MICRODASYS** (Lehm.) Pfeiff. **var. ALBISPINA** Fobe

An erect, bushy plant with broadly oval yellowish-green joints 2½–4¾in long. These are thickly dotted with areoles bearing numerous minute white glochids, which are generally spineless. The flowers, appearing by day in summer, are bright yellow, 1½–2in long and in diameter. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Central Mexico.*



OPUNTIA **MICRODASYS var. PALLIDA** Hort.

Similar to O. *microdasys* var. *albispina* except that the areoles and glochids are yellow and the joints rather longer and more slender. Flowers are similar. Requirements are the same as for var. *albispina*.

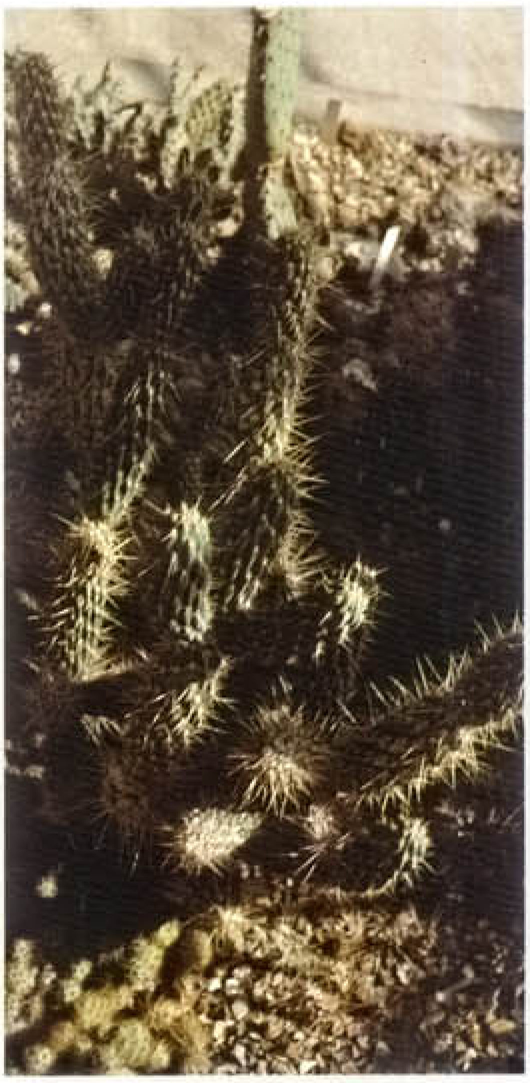


OPUNTIA **MICRODASYS var. RUFIDA** K. Sch.
Syn: *Opuntia rufida* Engelm.

Plants are up to about 1½ft tall with dark grayish-green, more or less oval joints, 2–3¼in long. Areoles are reddish-brown with similar-colored glochids, and are spineless. Yellow or orange-yellow flowers appear in summer, and are diurnal. Requirements are the same as for O. *microdasys* var. *albispina*.

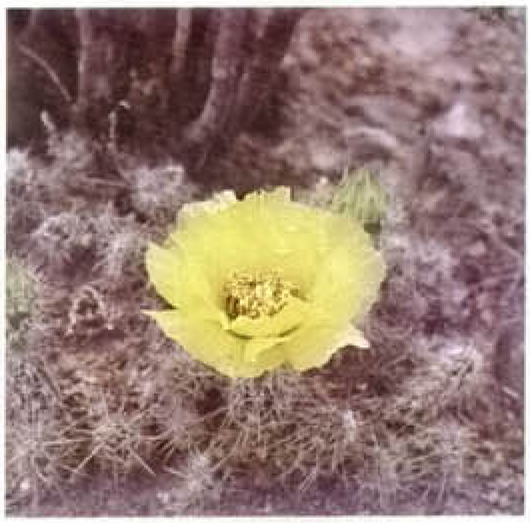
OPUNTIA **MIQUELII** Monv.
Syn: *Austrocylindropuntia miquelii* (Monv.) Backeb.

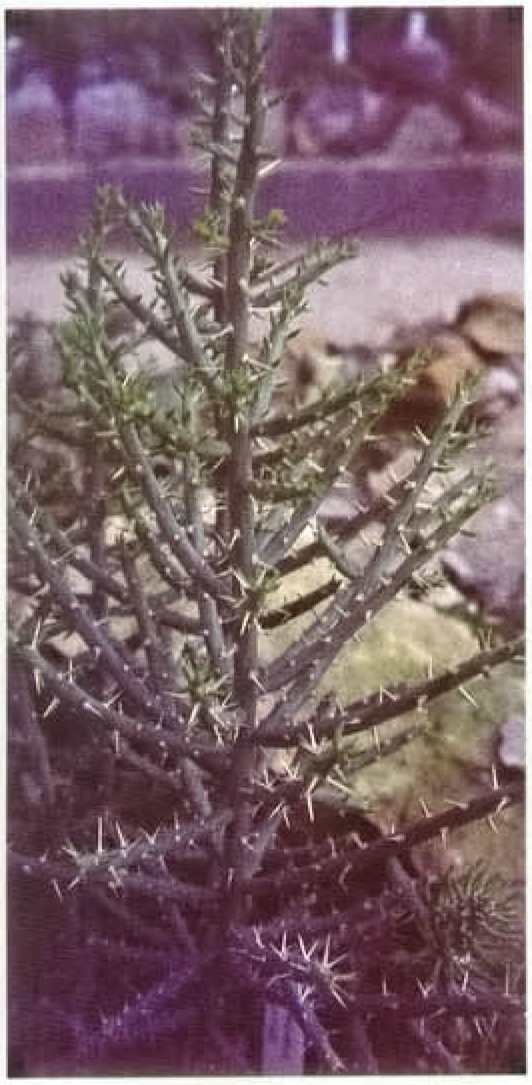
Cylindrical-stemmed plants up to about 3ft tall, mainly branching from the base and forming large clumps. The bluish-green stems are about 2½in thick, and have prominent tubercles. Areoles have brownish glochids and around 10 grayish-white spines, some up to 4in long. Day flowering in summer, the flowers are white or pinkish-white, rarely yellow, and 1½–3¼in long. Needs good light; normal cactus compost; minimum 50°F. *Chile (Atacama).*



OPUNTIA **MOELLERI** Berger

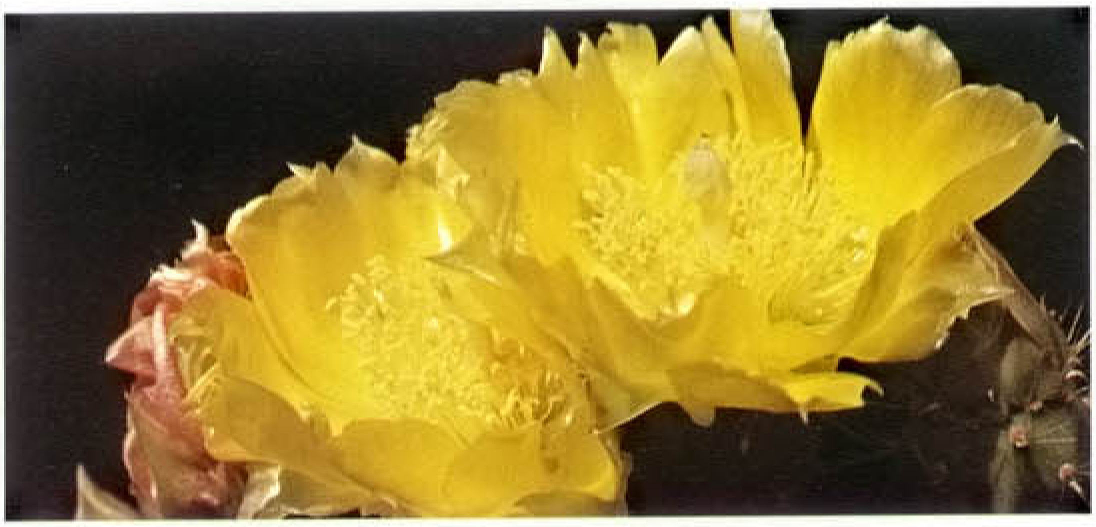
A low-growing plant up to about 6in high with oval or conical joints 2½–3½in long and about 2in thick. These have prominent tubercles and whitish areoles with similar-colored glochids. The spines are brownish gray, of which seven to eight are radials to about ⅓in long and there are one to five centrals to ⅔in. Day flowering, in early summer, the flowers are yellow, about 1in across. Requires full sun, which is essential; normal cactus compost; minimum temperature 55°F. *Mexico (Coahuila).*





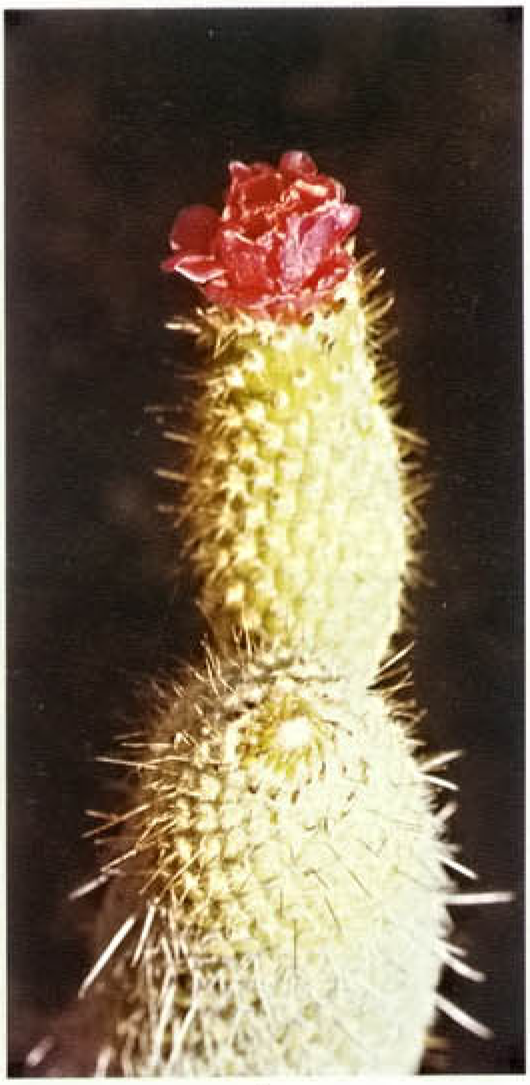
OPUNTIA **MORTOLENSIS** (Br. & R.) F. Knuth

An erect, shrub-like, dark green plant to about 2ft tall, the several branches 6in–1½ft long, and up to ½in thick. The white woolly areoles each have usually one to three grayish-white spines, often up to 1½in in length. Flowering by day in summer, the greenish-yellow flowers are about 1in long and across. Needs a sunny position; normal cactus compost; minimum temperature 50°F. *Mexico.*



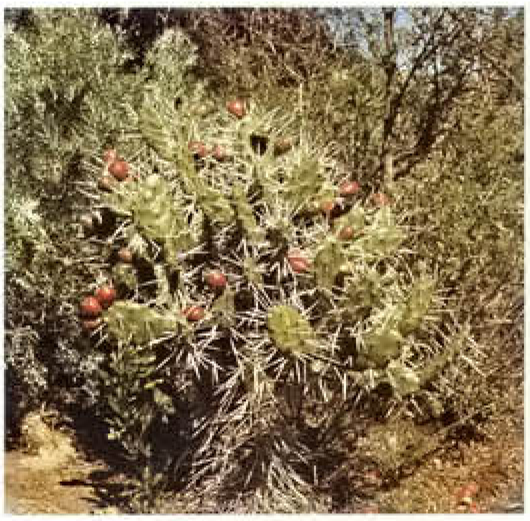
OPUNTIA **ORBICULATA** Salm-Dyck
Syn: *Opuntia crinifera* Pfeiff.

A tall, shrubby plant up to 6½ft high with oval or roundish joints 6–10in long, 4–6in broad, and glaucous or pale bluish green in color. The areoles are grayish, with reddish-yellow glochids and about six yellowish, becoming grayish-white, spines up to 1½in in length. Numerous whitish hairs are very apparent on the surface of the joints. The yellow flowers, about 4in across, appear by day in summer. Needs sun; normal cactus compost; minimum temperature 45°F. *Northern Mexico.*



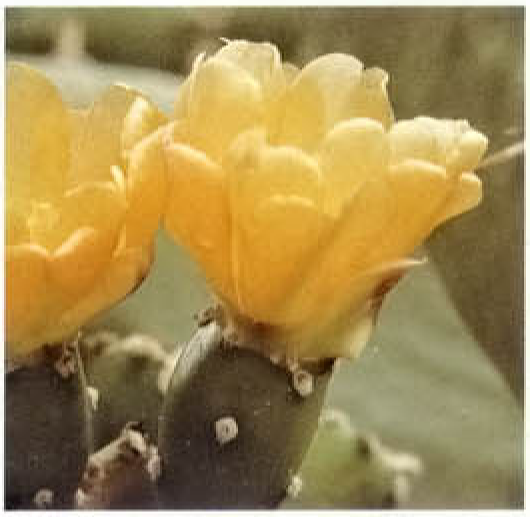
OPUNTIA **PACHYPUS** K. Sch.
Syn: *Austrocylindropuntia pachypus* (K. Sch.) Backeb.

An erect, mostly solitary plant up to 3ft high and about 3¼in thick. It has closely set, flattish tubercles and large, white areoles, bearing yellow glochids and 20–30 whitish spines, varying from ⅕–¾in in length. Summer flowering, it is diurnal; the flowers are scarlet, 3in long and across. A rare species needing good light; normal cactus compost; minimum temperature 55°F. *Peru (Chosica).*



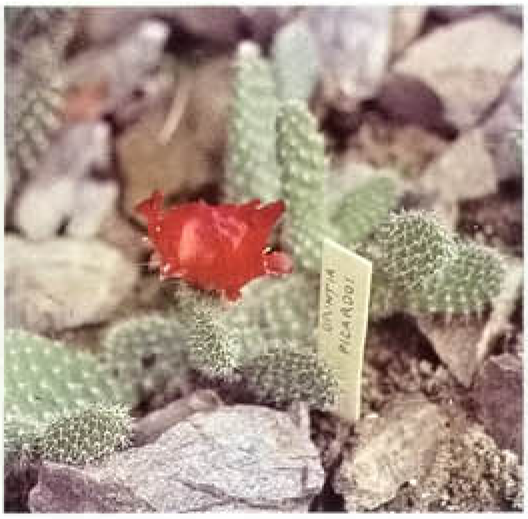
OPUNTIA PALMADORA Br. & R.

A dense shrub-like plant up to about 10ft high with a center trunk about 3½in thick. The joints are thin, narrowing to about 4–6in long, 1½–3in wide with whitish areoles and a few brownish glochids. Spines are yellowish, one to four or more in number, and up to 1in long. Flowering by day in early summer, the flowers are brick red, with petals standing erect, and are 1–2in long. Requires light shade; normal cactus compost; minimum temperature 55°F. *Brazil (Bahia).*



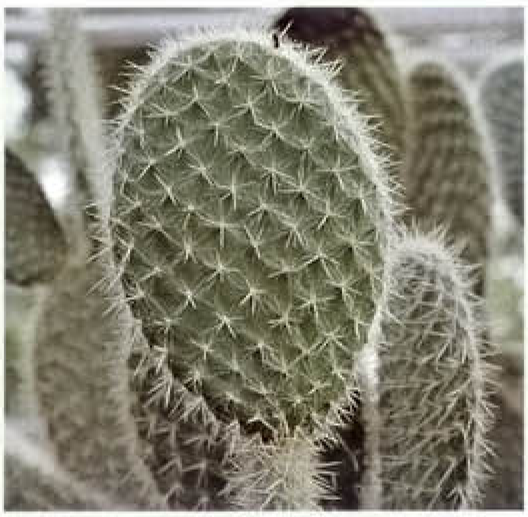
OPUNTIA PARAGUAYENSIS K. Sch.

A semi-erect, bushy plant with dark green oblong joints, 7–8¼in long, 3¼–6in wide. The prominent areoles, about ⅕in long, are yellowish white with yellowish glochids. Spines are usually absent, though there is occasionally one to ½in long. Flowering by day in mid-summer, the flowers are orange-yellow and about 3¼in across when fully open. Needs very bright light; normal cactus compost; minimum temperature 55°F. *Paraguay, Argentina.*



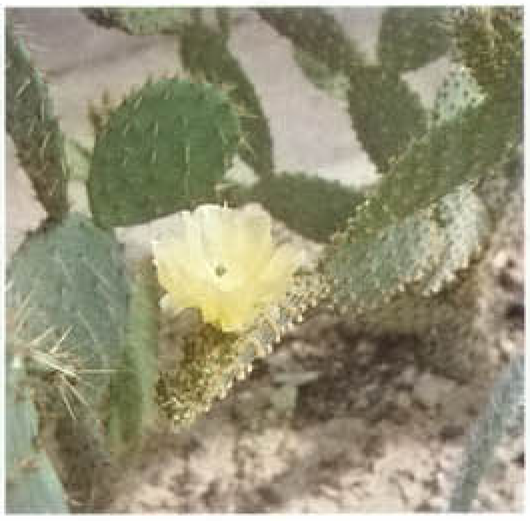
OPUNTIA PICARDOI Marn.-Lap.

A low-growing, spreading species with pale to dark green somewhat oval joints, about 3in long, 1–1½in broad. Areoles are yellowish brown with up to 10 white spines ⅒–⅕in in length, and minute golden-yellow glochids. Flowering in mid-summer, the flowers are diurnal, bright red, and 1⅓in in diameter. Requires a bright sunny position; slightly calcareous cactus compost; minimum temperature 55°F. *Argentina (Salta).*



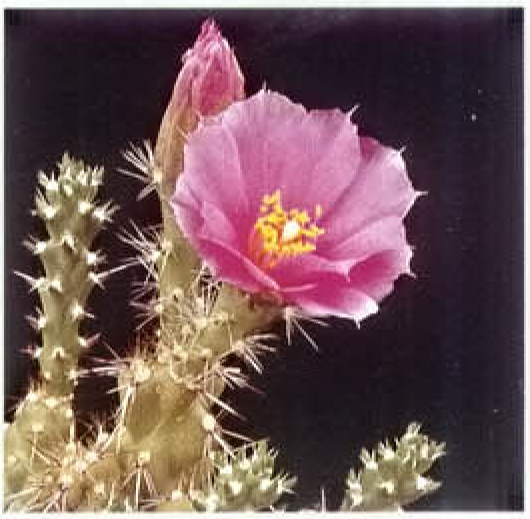
OPUNTIA PILIFERA Weber

A tree-like species, in its habitat up to 13ft high. The pale-greenish joints are usually oblong, 4¾in–1ft long, 3–4¾in broad. Areoles are gray with yellowish-red glochids and fine curly hairs and carry two to nine whitish, slender spines ½–⅔in long. Day flowering, in summer, the flowers are dark red and about 2½in in diameter. Needs a bright position; normal cactus compost; minimum temperature 50°F. *Mexico (Puebla).*



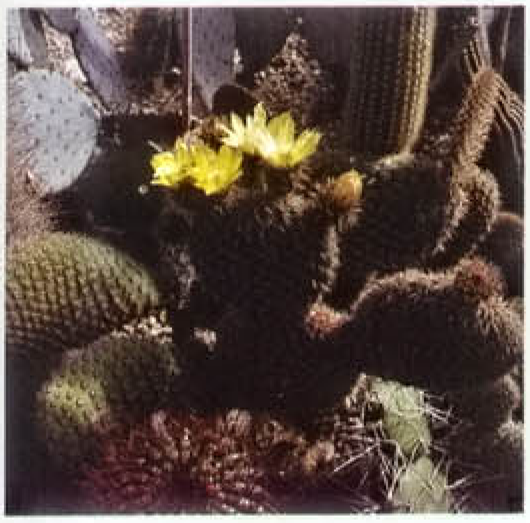
OPUNTIA PUBERULA Pfeiff.

Probably a natural hybrid of *O. microdasys.* This is a bushy plant up to 3ft tall with broadly oval greenish joints to 4¾in long, 3¼in wide and large yellow areoles with tufts of yellow glochids. Mostly spineless, but occasionally there are three or more yellowish spines about ½in long. Mid-summer flowering, it is diurnal, with pale yellow flowers, about 1½in across. Requires a sunny position; normal cactus compost; minimum temperature 50°F. *Mexico.*



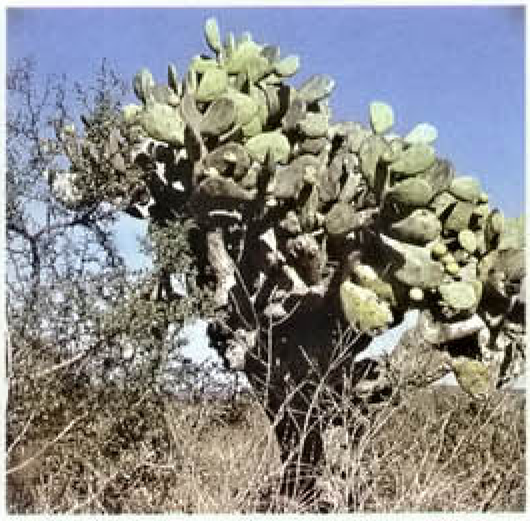
OPUNTIA PULCHELLA Engelm.

A clump-forming species arising from a glochid-covered tuber 2–3¼in in diameter. The joints are variable, but are mostly cylindrical or clavate and covered with low tubercles, up to about 4in long but more frequently not exceeding 2–2½in. The areoles have yellow glochids and whitish or grayish spines of which eight to fifteen are radials ⅒–⅕in long, and there is one central, 1in in length. The plant is summer flowering and diurnal, with purple to rose flowers about 2in broad. Requires sun; normal cactus compost; minimum temperature 50°F. *USA (Arizona, Nevada).*



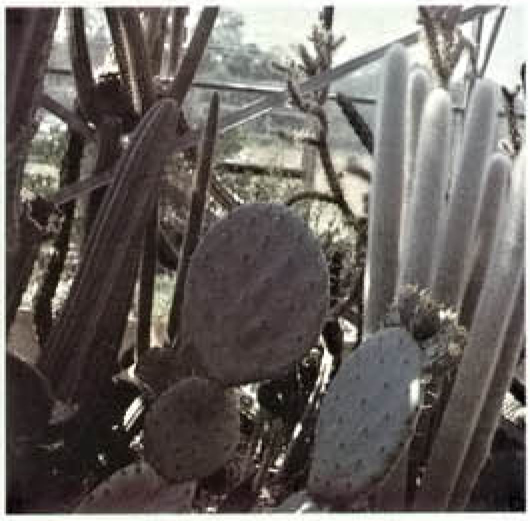
OPUNTIA PYCNANTHA Engelm.

A fairly low-growing species with dark green oval joints 5–6in long, about 5in broad. These are slightly pubescent and covered with closely set brown areoles bearing tufts of brownish-yellow glochids. The brownish spines are reflexed, ¾–1in long. Flowers, greenish yellow and 1½–1¾in across, appear in summer and are diurnal. Requires a sunny position; normal cactus compost; minimum temperature 55°F. *Mexico (Baja).*



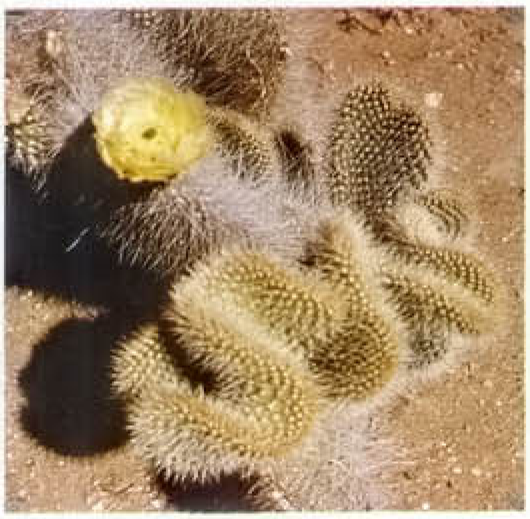
OPUNTIA QUIMILO K. Sch.

A shrub-like plant up to 13ft high in the wild. The grayish-green joints are more or less elliptical and are up to 1½ft long, 10in broad and ¾–1in thick. Large areoles bear initially one stiff white spine 3–6in long and later somewhat shorter, often twisted spines. Flowers are bright red, about 3in across, and appear by day in mid-summer. Needs sun; normal cactus compost; minimum temperature 50°F. *Northern Argentina.*



OPUNTIA ROBUSTA Wendl.

A variable species, generally tree-like and up to 15ft high in the wild. The grayish-green joints are often broader than long, thick, smooth, and up to 1ft broad. Areoles are brown with small reddish glochids, the upper areoles having a few thick, yellowish spines, becoming whitish, ½–2in long. Flowers are yellow, about 3in across, and appear by day, in summer. Requires bright light; normal cactus compost; minimum temperature 50°F. *Central Mexico.*

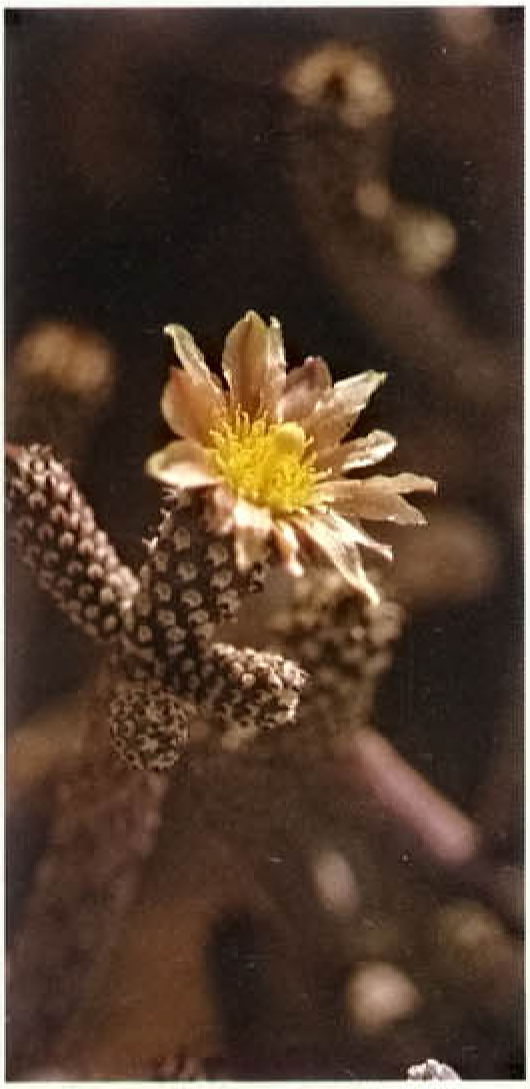


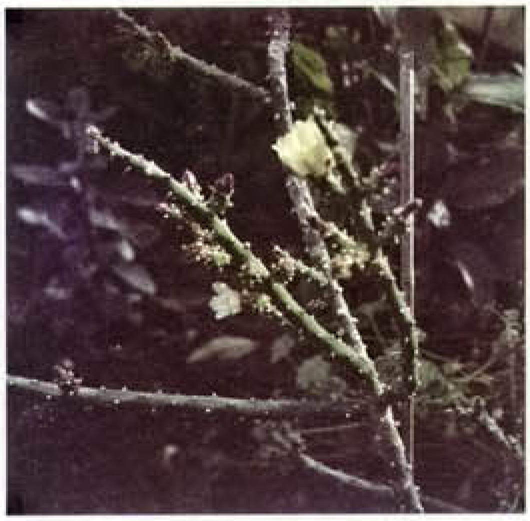
OPUNTIA PYCNANTHA var. MARGARITANA Coult.

Very similar to the species but with pale glochids and more numerous whitish spines, up to about ½in in length. Occasionally a cristated growth develops (as illustrated). Flowers are sulfur yellow, about 1½–2in diameter. Requirements are the same as for the species. *Mexico (Santa Margarita Island).*

OPUNTIA RAMOSISSIMA Engelm.

A bushy or arborescent species, rarely more than 2ft high. The grayish-green joints are slender, 2–4in long, spreading to form dense, spiny clumps. The joints are ⅕–¼in thick with a "woody" core, covered with flattened tubercles with apical areoles. Usually there is only one developing spine to over 2in long, which often quickly falls. Flowers in summer, diurnal, about 1½in long, ½–¾in in diameter. The greenish-yellow petals are tinged with lavender. Requires full sun; normal cactus compost; minimum temperature 50°F. *USA (California, Nevada).*





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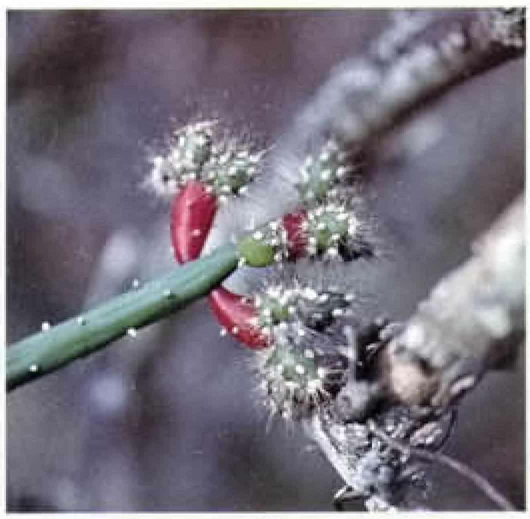

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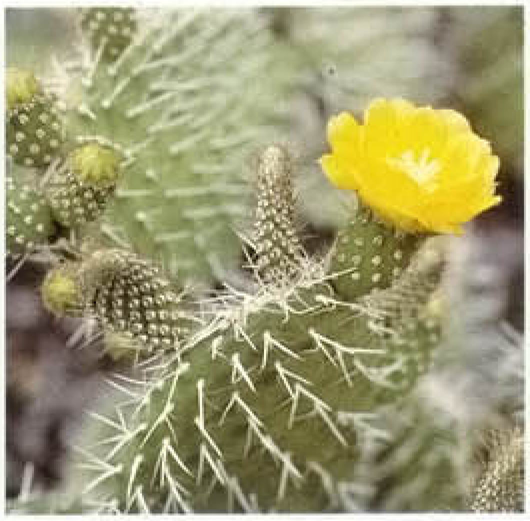
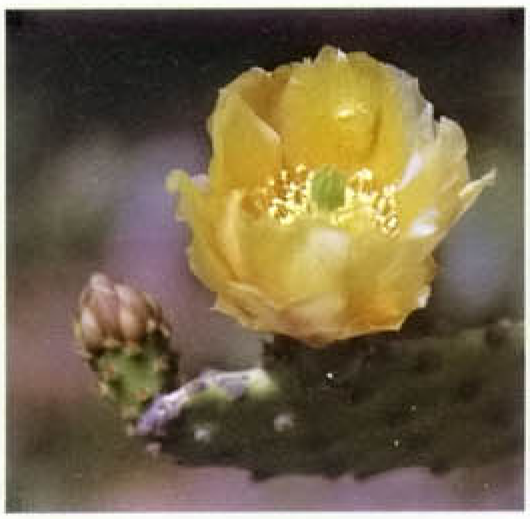
OPUNTIA **SALMIANA** Parm.
Syn: *Austrocylindropuntia salmiana* (Parm.) Backeb.

Cylindrical-stemmed, 1½–2½ft tall, with branches 10in or more long and about ½in in diameter. These are glaucous green, reddish or purplish. The areoles are very small and whitish, with tufts of glochids, spineless or with about three yellowish spines about ⅓in in length. Flowers in late summer, diurnal, yellow and about 1⅓in across. Requires a sunny position, normal cactus compost; minimum temperature 55°F. *Brazil, Paraguay, Argentina.*



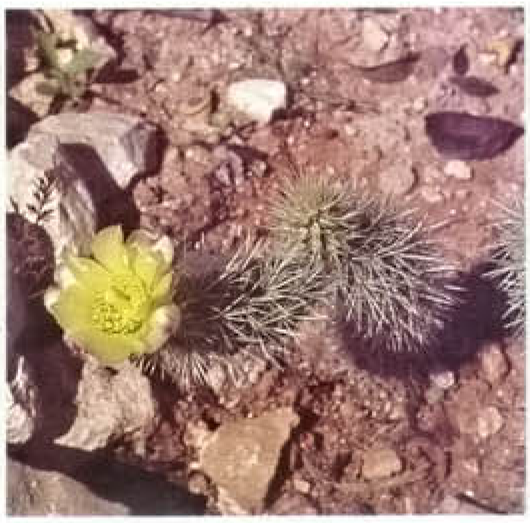
OPUNTIA **SAXATILIS** (Ritter) Braun & Esteves **var. POMOSA** Braun

A somewhat low-growing, semi-prostrate species with grayish-green joints 4–4¾in long, 2–3in broad, and ½in thick. The areoles are white with usually two to three pale brownish-white spines to about ½in long. Flowers are bright yellow, about 1in long, and appear by day in mid-summer. Needs bright light; normal cactus compost; minimum temperature 50°F. *Brazil (Minas Gerais).*



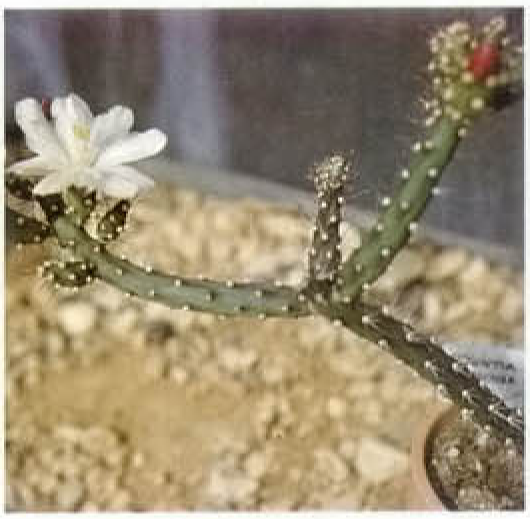
OPUNTIA **SCHICKENDANTZII** Weber

A rather slender grayish-green species eventually reaching 3–6½ft tall. Flattened cylindrical joints are up to 8in long, ⅔–1in thick and have small whitish areoles bearing whitish glochids and one or two white spines up to ¾in long. The flowers are yellow, about 1½in across, diurnal and summer flowering. Needs bright light; normal cactus compost; minimum temperature 50°F. *Argentina (Tucuman, Salta).*



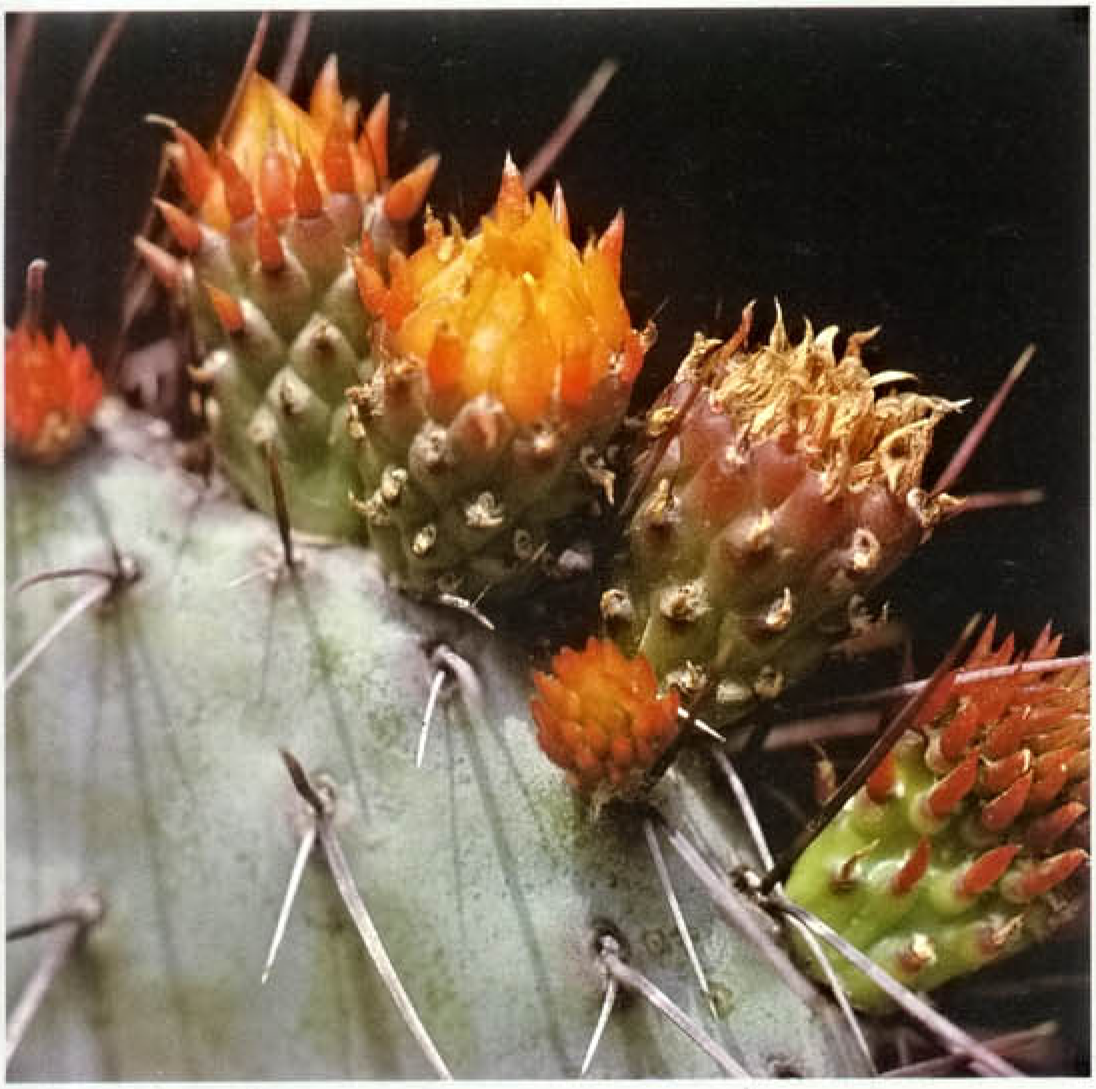
OPUNTIA **SCHOTTII** Engelm.
Syn: *Corynopuntia schottii* (Engelm.) F. Knuth

A low-growing, spreading plant rarely exceeding 8in high. It has erect, oval joints, 1½–3in long and up to ¾in thick, with prominent tubercles ⅔in long. The areoles are white with white glochids and six to eight white radial spines to ¾in long with four pale brownish centrals up to 1½in in length. Summer flowering, and diurnal, the flowers are bright yellow, 1in in diameter. Needs bright light; normal cactus compost; minimum temperature 50°F. *USA (Texas), Northern Mexico.*



OPUNTIA **SPEGAZZINII** Weber
Syn: *Opuntia albiflora* K. Sch.; *Austrocylindropuntia salmiana* var. *albiflora* (K. Sch.) Backeb.

A cylindrical-stemmed, branching species up to 3ft high. The smooth, glaucous-green branches are about 1ft long, ½–¾in thick, and the small, white areoles have white glochids and two to five whitish spines, about ⅓in long. Flowering by day in late summer, the blooms are white, about ¾in diameter. Requires a bright position; normal cactus compost; minimum temperature 55°F. *Argentina.*



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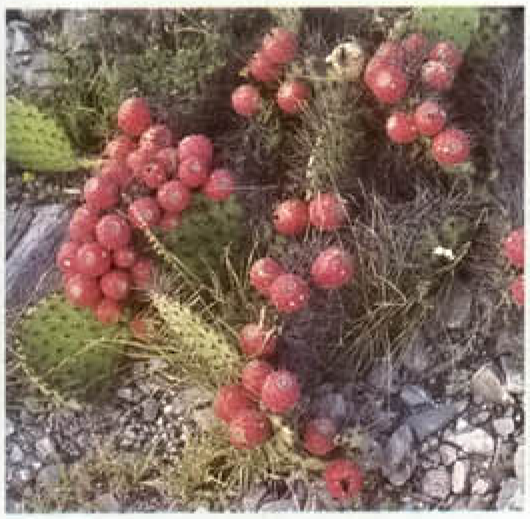

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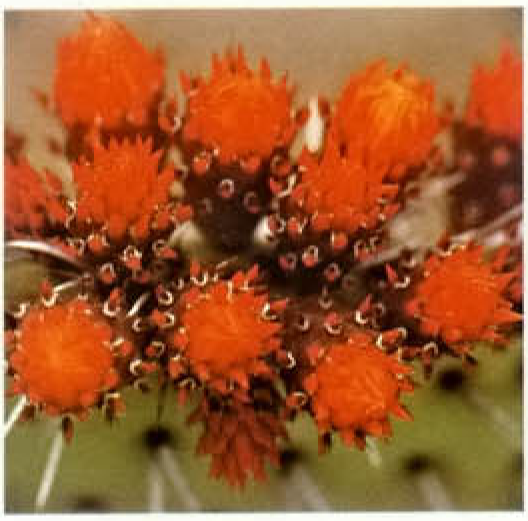
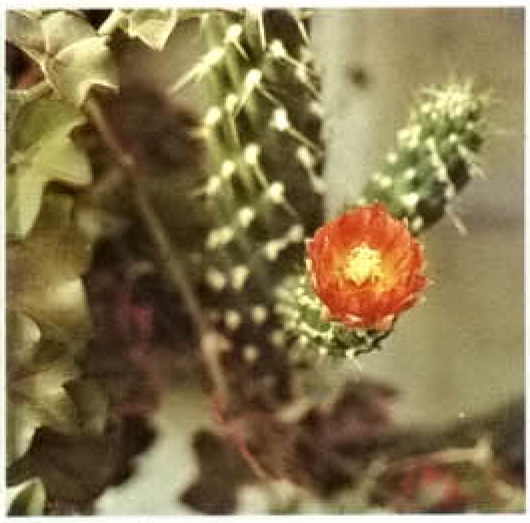
OPUNTIA **STENOPETALA** Engelm.

A semi-prostrate plant with pale grayish-green joints 4–8in long, obovate or almost round. The brown areoles are set far apart with brownish glochids and there are two to four brownish-red spines which become grayish, and are up to 2in long. Flowers are bright flame red, 1½in in diameter when fully open; they appear by day in summer. The oval fruits which follow are spineless or almost so, and a deep rose pink. Requires full sun; normal cactus compost; minimum temperature 50°F. *Central Mexico.*



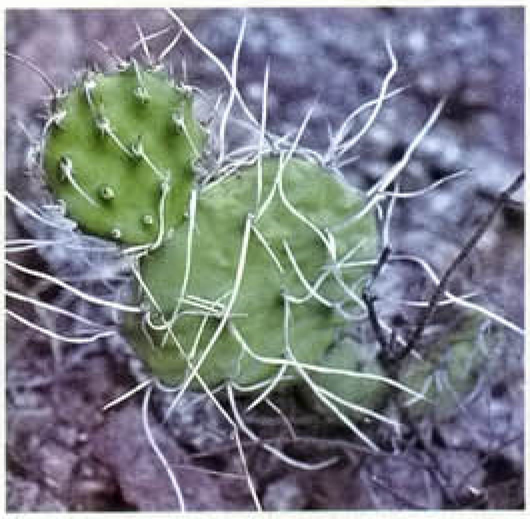
OPUNTIA **STENOPETALA var. RIVIEREANA** Backeb.

Very similar to the species but with larger joints 8¾in long, 5½in broad, and 1in thick. The areoles are whitish with brownish glochids and one or two spines to 1in long. Flowers are orange-red, 1½in long, ¾in in diameter when fully open; they are summer flowering, and diurnal. Requirements are the same as for the species. *Central Mexico.*



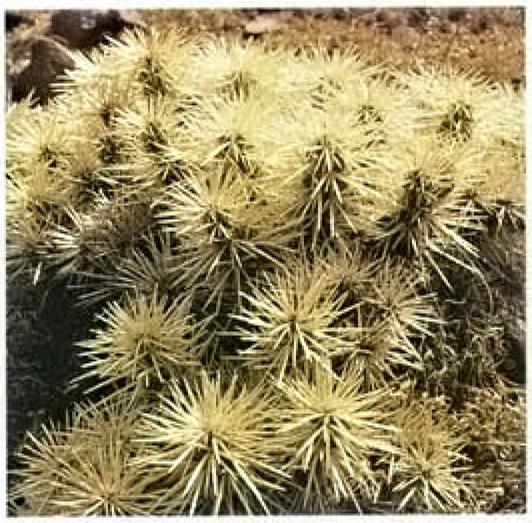
OPUNTIA **SUBULATA** (Müehlf.) Engelm.
Syn: *Austrocylindropuntia subulata* (Müehlf.) Backeb.

Erect, 6½–13ft high, 2½–4in thick, generally branching. The stems and joints are regularly covered with more or less oblong tubercles. Semi-cylindrical leaves form toward the upper portion of the stems, about 4in long, often persisting. The areoles have a few yellowish glochids and one or two pale yellowish spines up to 3¼in long. Reddish flowers appear by day, in summer, ¾in or more wide. Requires bright light; normal cactus compost; minimum temperature 50°F. *Peru, Argentina, Chile?*



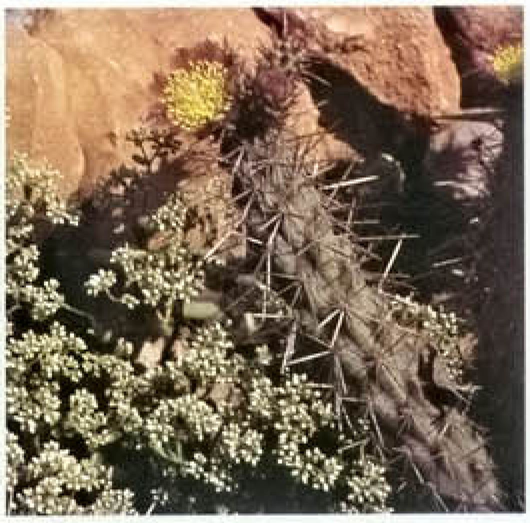
OPUNTIA **SULPHUREA** G. Don
Syn: *Opuntia maculacantha* Forst.

A low-growing spreading, straggling plant with pale green, oval-shaped joints 4–8in long. The small areoles bear yellowish-red glochids and two to eight mostly twisted, stiff spines which initially are reddish, and later turn grayish white with brownish tips. Sulfur-yellow flowers, 1½in long, appear by day, in summer. Requires sun; normal cactus compost; minimum temperature 50°F. *Argentina (Santiago).*



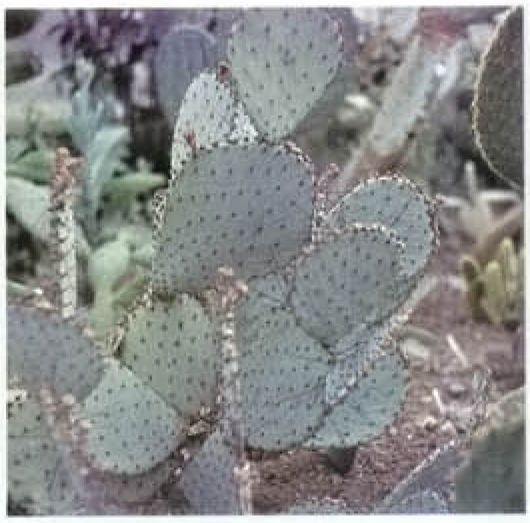
OPUNTIA **TUNICATA** Link & Otto
Syn: *Cylindropuntia tunicata* (Lehm.) F. Knuth

A bushy, erect plant to about 1½ft high, freely branching in whorls. The glaucous-green stems and joints are 2½–4¾in long, about 1½in thick, with prominent white areoles and yellow glochids. The six to ten pale yellow spines, 1½–2in long, are barbed. Day flowering in early summer, the flowers are yellowish green and about 2in in diameter when fully open. Requires bright sun; slightly calcareous cactus compost; minimum temperature 50°F. *Mexico, possibly also South America.*



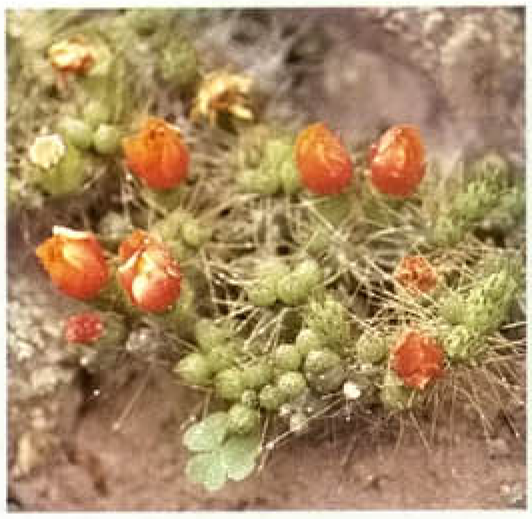
OPUNTIA **VERSICOLOR** Engelm.
Syn: *Cylindropuntia versicolor* F. Knuth

Tree-like, 6½ft or more high, with a short trunk and longer branches. These have dullish green, tuberculate joints 4–10in long, ¾–1½in thick, often turning purplish, and a few cylindrical leaves, which soon fall. The areoles and glochids are reddish brown; there are seven to twelve brown spines, about ⅔in long. Flowers, about 2in in diameter, are red, rose purple, brown, or greenish yellow, appearing by day in summer. Requires a sunny position, normal cactus compost; minimum temperature 50°F. *USA (Arizona), Northern Mexico.*



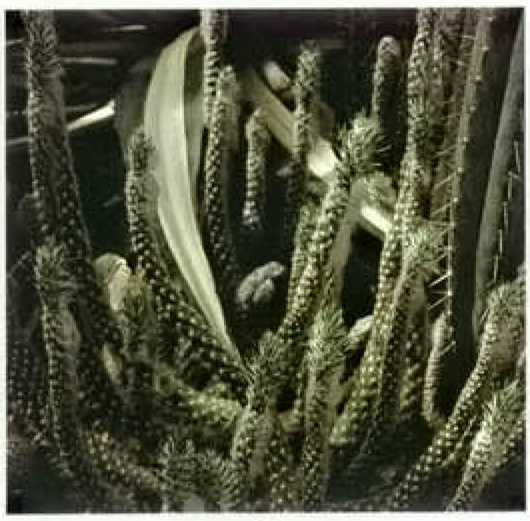
OPUNTIA **VIOLACEA** Engelm.

This plant, up to about 3ft tall, is almost tree-like with green obovate joints which are always tinged bluish green or reddish purple, and are 4–6in long and often up to ½in thick. It has reddish-brown areoles and glochids with three dark brown spines up to 2½in long on the top margin of each joint. The flowers bloom by day in summer. Each flower is 2½–3½in in diameter and is bright yellow with a red throat. Requires a sunny location; normal cactus compost; minimum temperature 50°F. *USA (Arizona, New Mexico).*



OPUNTIA **VERSCHAFFELTII** Weber
Syn: *Austrocylindropuntia verschaffeltii* (Cels) Backeb.

A low-growing, cylindrical-stemmed plant. The dull-green stems are 4–6in long, ½–⅔in thick, and slightly tuberculate, bearing cylindrical leaves ½–2in in length, these often persisting. The areoles are whitish with yellow glochids and sometimes one to three very fine, hair-like spines up to 2½in in length. Flowering by day in late summer, the flowers are red, about 1½in in diameter. Requires a bright position; normal cactus compost; minimum temperature 50°F. *Bolivia.*



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OPUNTIA **VESTITA** Salm-Dyck
Syn: *Austrocylindropuntia vestita* (Salm-Dyck) Backeb.

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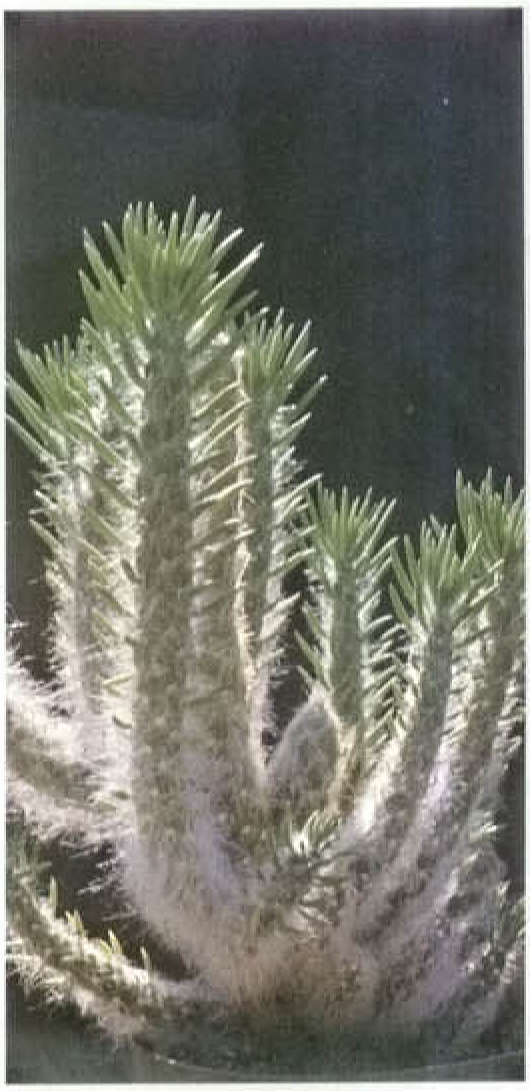
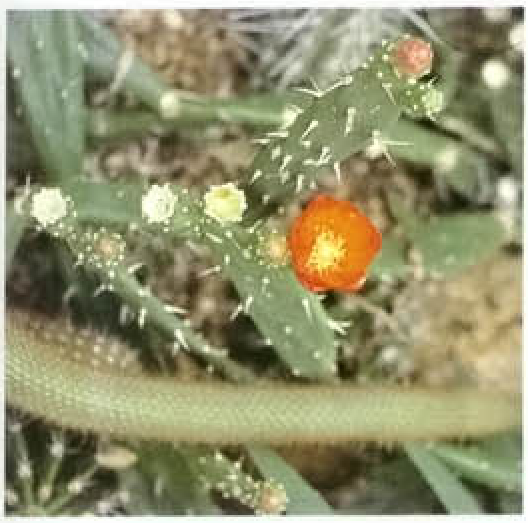
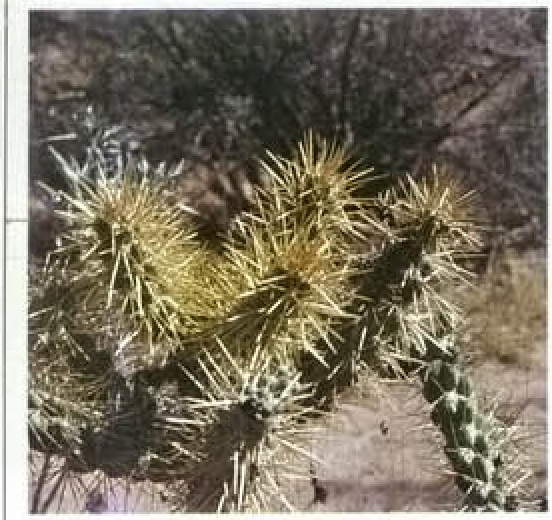
The plants are semi-erect or sprawling with cylindrical pale green, warty joints up to 1½ft long, ¾–1in thick. Areoles have white glochids, the upper ones bearing leaves about ½in long. There are four to eight spines up to ¾in long intermingling with numerous fine white hairs which envelop the stems. The flowers are dark red, about 1½in wide; these are diurnal, in summer. Requires slight shade; slightly calcareous compost; minimum temperature 50°F. *Bolivia (La Paz).*





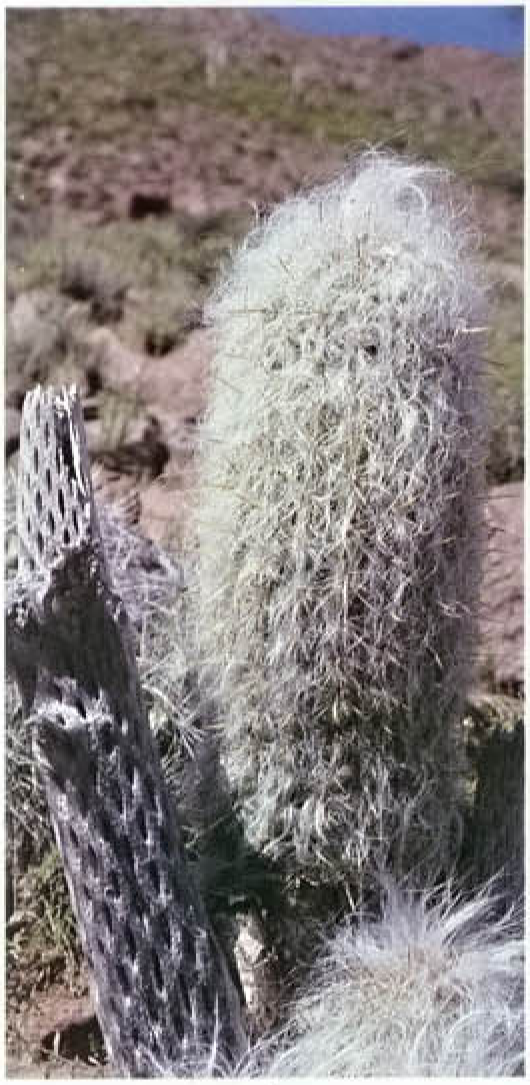
OPUNTIA **VITELLINIFLORA** Ritter

A prostrate species with glossy-green joints, more or less oblong in shape and 4¾–8¾in long, 1–3in wide, to ½in thick. There are well-spaced, gray felted areoles ¹⁄₁₆in in diameter and the spines are pale brownish, one to three in number and ⅕–¾in in length. Day flowering in late summer, the flowers are orange-red, about 2½in long and 1½in across. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Bolivia (Florida).*



OPUNTIA **WHIPPLEI** Engelm. & Bigelow

A straggly, bushy plant up to 3ft or more high. The joints are a dull green, 2in–1ft long, ¾in thick, with tubercles about ½in long and wide. The whitish areoles have a few glochids, and there are six to ten pinkish or brownish spines with whitish sheaths, 1–2in long and strongly barbed. Flowering in summer, and diurnal, the blooms are pale yellow and about 1in in diameter. Requires sun; normal cactus compost; minimum temperature 50°F. *USA (Arizona, New Mexico, Nevada, Utah).*



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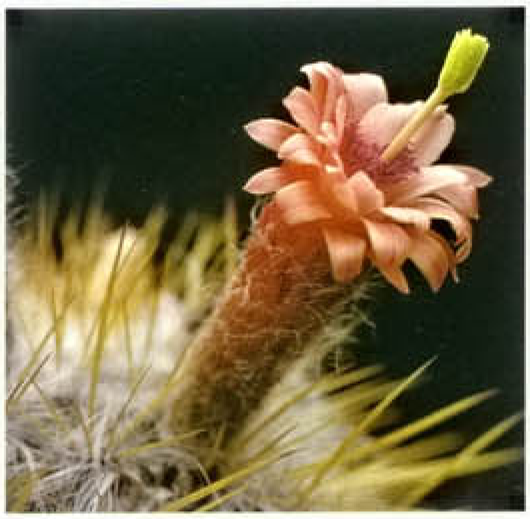

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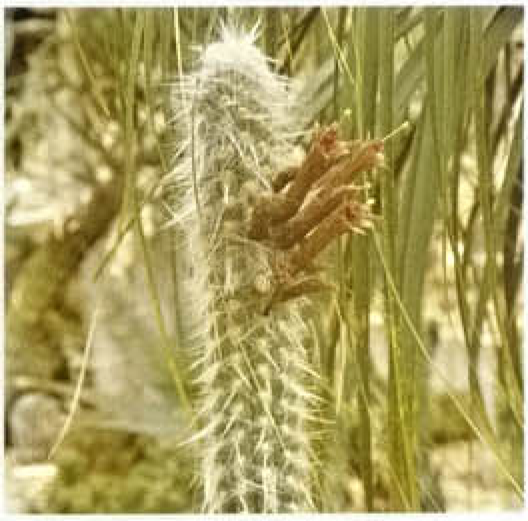
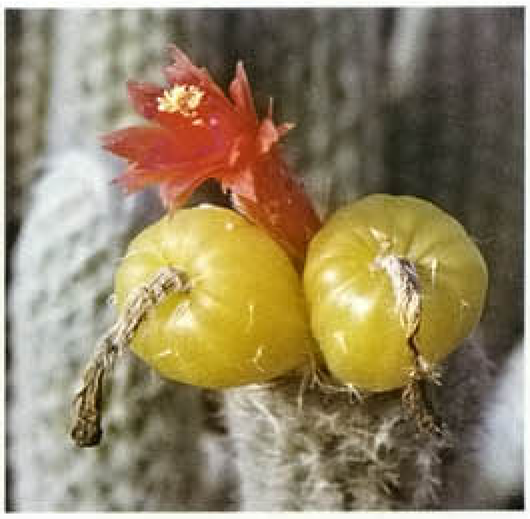
OREOCEREUS **CELSIANUS** (Lem.) Ricco.
Syn: *Pilocereus celsianus* Lem.

Should possibly be included within *Borzicactus.* The stems are erect, columnar, and over 6½ft tall, 3¼–4¾in thick, branching from the base, with about 10–25 rounded ribs. The large, white woolly areoles are about ⅔in apart, the spines are yellowish to reddish brown, seven to nine are radials about ¾in long, and one to four are centrals. Flowers by day in summer, 3–3½in long, pale purplish-pink inner petals, brownish-red externally. Requires bright sun; normal cactus compost; minimum temperature best at 50°F. *Bolivia, Argentina.*



OREOCEREUS **CELSIANUS var. FOSSULATUS** (Backeb.). Krainz
Syn: *Oreocereus fossulatus* (Lab.) Backeb.

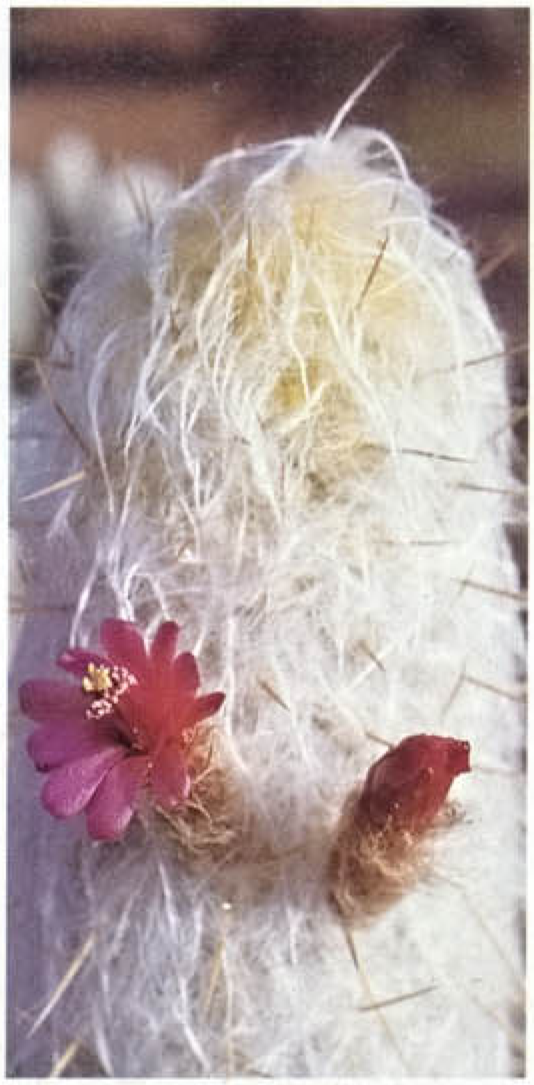
This is somewhat similar to the species with nine to fourteen ribs. The areoles, arranged 1in apart, bear longer, honey-yellow spines and many hairs. The flowers are red or brownish-red, about 3½in or slightly longer, and appear by day, in summer. Needs bright sunshine; normal cactus compost; minimum temperature best at 50°F. *Peru, Bolivia.*



OREOCEREUS **DOELZIANUS** (Backeb.) Borg.
Syn: *Morawetzia doelziana* Backeb.; *Morawetzia sericata* Ritter

The olive-green stems are about 3ft tall, 1½–3¼in thick, with nine or more ribs. Gray silky areoles are set about ⅔in apart bearing 10–16 radial spines up to ⅔in long, and four centrals to 1½in in length. Flowers appear by day in summer from the dense white woolly and bristly cephalium; carmine with a bluish suffusion on the inner petals and about 4in in length. Needs bright sun; normal cactus compost; minimum temperature 50°F. *Peru.*

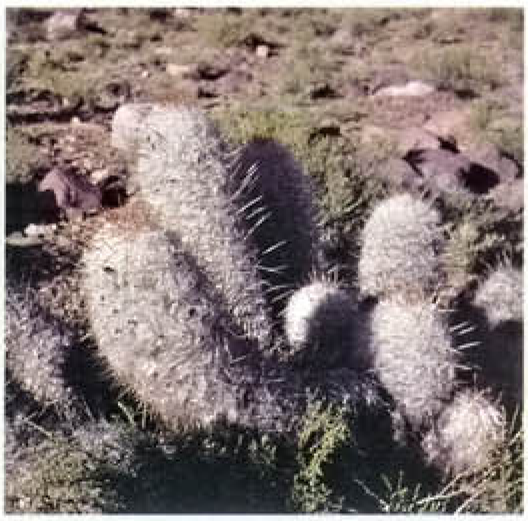
OREOCEREUS



OREOCEREUS **HENDRIKSENIANUS** Backeb.

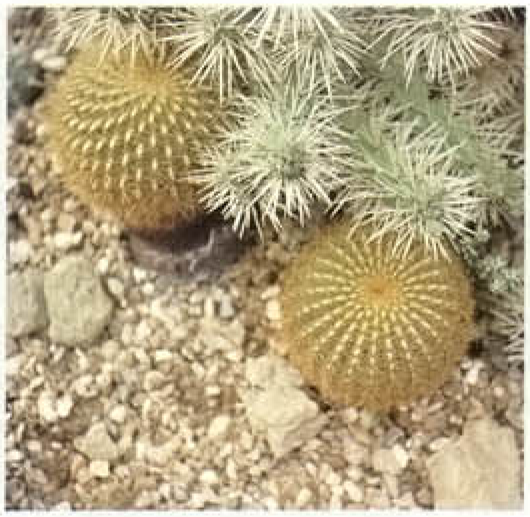
Stems to about 3ft high, branching from the base, and 2½–4in thick with about 10 rounded, deep green ribs. The areoles, set about ¾in apart, bear seven to nine reddish radials up to ¾in long and one to four reddish-brown centrals to 2in in length. There are dense, white woolly hairs from the tips of the stems. Flowers in mid-summer, diurnal; the flowers are carmine red, about 3in long. That shown is possibly var. *densilanatus* Rauh & Backeb. Needs sun; normal cactus compost; minimum temperature 50°F advisable. *Southern Peru.*

OROYA



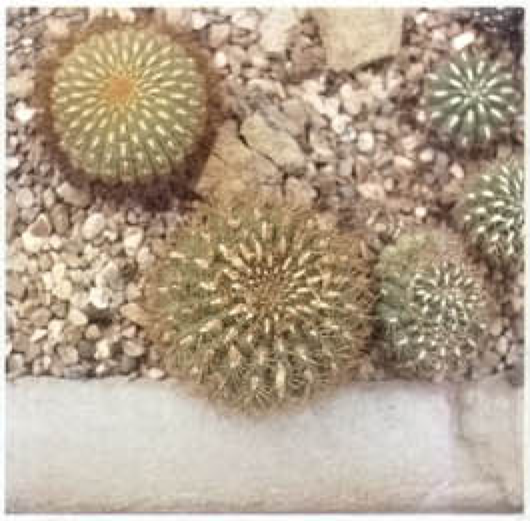
OREOCEREUS **TROLLII** (Kupper) Backeb. Syn: *Oreocereus celsianus* var. *trollii* Kupper

A low-growing columnar plant about 1½ft tall, branching from the base. The pale green stems are 2½–3½in thick, with 15 or more notched ribs. Areoles are set about ¾in apart with a mass of white or grayish-white woolly hairs around the stem. The spines are yellow, reddish, or brown, made up of 10–15 radials, and one or more centrals, all varying in size up to ¾in or more long. Flowers are pink to carmine, about 1½in long, by day, in mid-summer. Needs full sun; normal cactus compost; minimum temperature 50°F. *Bolivia, Argentina.*



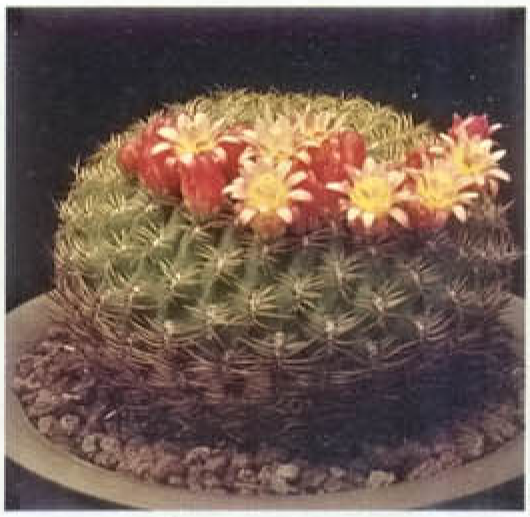
OROYA **BORCHERSII** (Böed.) Backeb.

A fresh-green globular species (in center of picture) up to about 1ft tall, 8in or more in diameter, with up to 30 ribs. The brown areoles bear yellowish to reddish-brown spines which ultimately cover the body of the plant; there are 25–30 radials and one to three centrals, arranged like a comb, and ¾–1in or more long. Summer flowering, and diurnal, the flowers are about ¾in long, ½in in diameter, and yellow to greenish yellow. Needs a bright position; an enriched cactus compost; minimum temperature 50°F. *Peru (Ancash).*



OROYA **NEOPERUVIANA** Backeb.

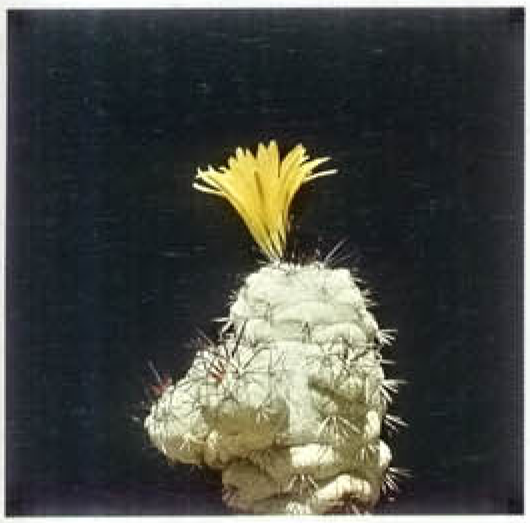
A dull-green, somewhat globular plant up to 1ft 3in high, 10in in diameter, with 34–35 or more ribs. The areoles bear many dull-yellowish spines with brown bases, of which there are 20–30 radials to ⅔in in length, and one to five centrals. Flowers are pale to carmine red with a yellow center, and are ¾–1in long; they appear by day, in summer. Requires bright light; normal cactus compost with additional humus added; minimum temperature 50°F. *Peru (Oroya).*



OROYA **PERUVIANA** (K. Sch.) Br. & R.

A bluish-green, rather flattened globular plant about 6in wide, 4in tall. It has 12–23 or more rounded ribs, notched into long tubercles, upon which are set the linear areoles nearly ½in long. The radial spines, set in a comb-like arrangement, are yellowish brown and about ½in long and there may be up to six central spines to 1in in length. Flowers appear from the new central areoles in summer, and are diurnal. They are about 1in long and bell-shaped, pale pink. Requires full sun; normal cactus compost; minimum temperature 55°F. *Central Peru.*

ORTEGOCACTUS



ORTEGOCACTUS **MACDOUGALII** Alex.
Syn: *Neobesseya macdougalii* (Alex.) Kladiwa

A small, globular species 1–1½in in diameter, pale grayish green, with large rhomboid tubercles about ½in broad. The white woolly areoles bear black-tipped white or totally black spines consisting of seven to eight radials up to ½in long and one central ⅕in in length. It is day flowering in summer, producing greenish-yellow flowers about 1in long, 1–1½in wide. Needs a bright position; an enriched cactus compost with a high mineral content; minimum temperature 59°F. *Mexico (Oaxaca).*

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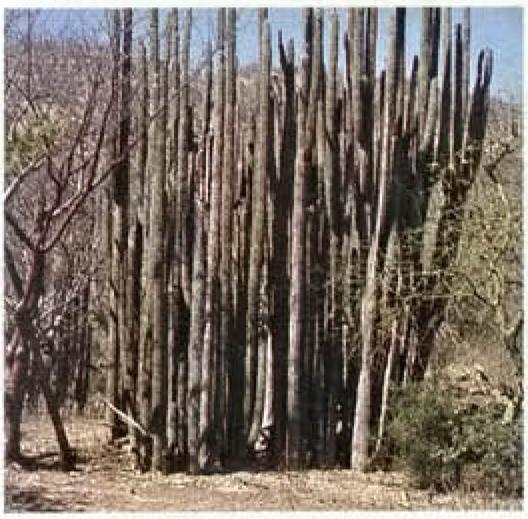
PACHYCEREUS



PACHYCEREUS **HOLLIANUS** (Weber) Buxb.
Syn: *Lemaireocereus hollianus* (Weber) Br. & R.

Columnar, 13–15ft high, branching from the base. The branches are gray-green, 2–2½in thick with eight to ten ribs. Areoles are at intervals of ½–1in with whitish-gray wool, bearing red spines which become gray. Twelve are radials to ¾in long and three to four are centrals to 4in. Flowers are diurnal, in early summer, near or at the tips of the branches, white, about 4in long. Needs a bright, sunny position; normal cactus compost with grit; minimum temperature 55°F. *Mexico (Puebla).*

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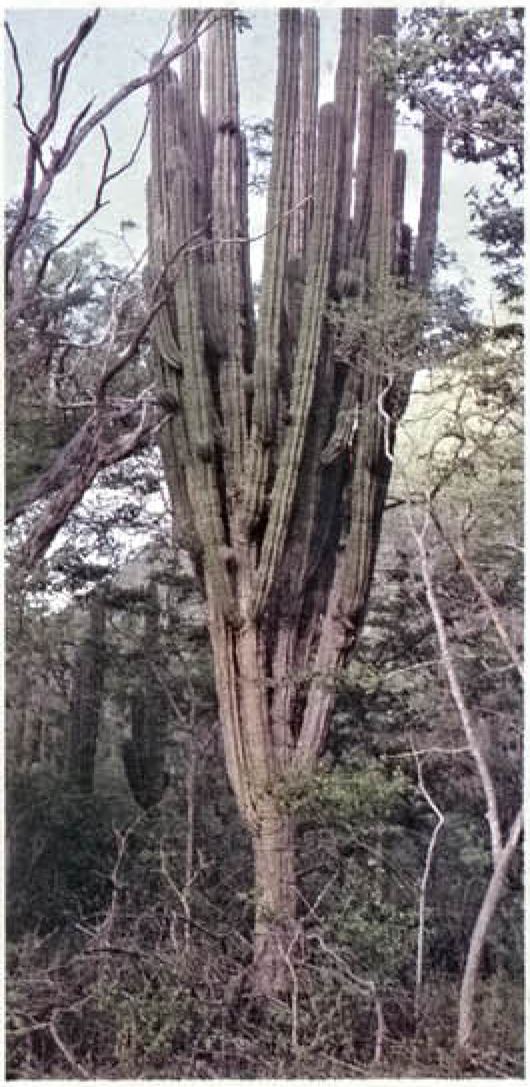

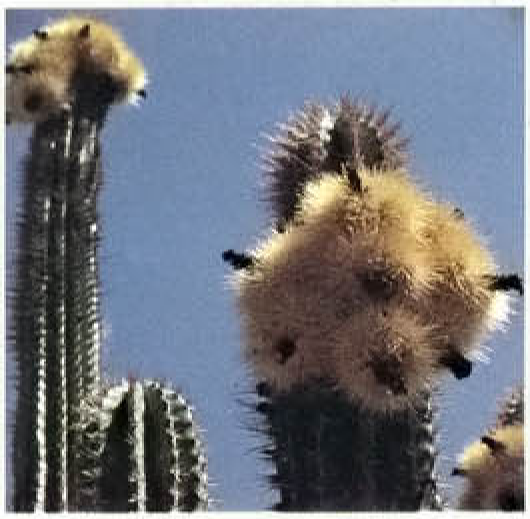

PACHYCEREUS **PECTEN-ABORIGINUM** (Engelm.) Br. & R.

A deep-green tall, branching, columnar species up to about 26ft in height and 1ft in diameter. It has 10–12 somewhat rounded ribs with large, grayish-white areoles set closely together and bearing eight to nine stiff, thick brownish radial spines and one or two centrals. Flowers are diurnal, appearing in summer, and are about 3¼in long, white, and reddish externally. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Northern, Central & Baja).*

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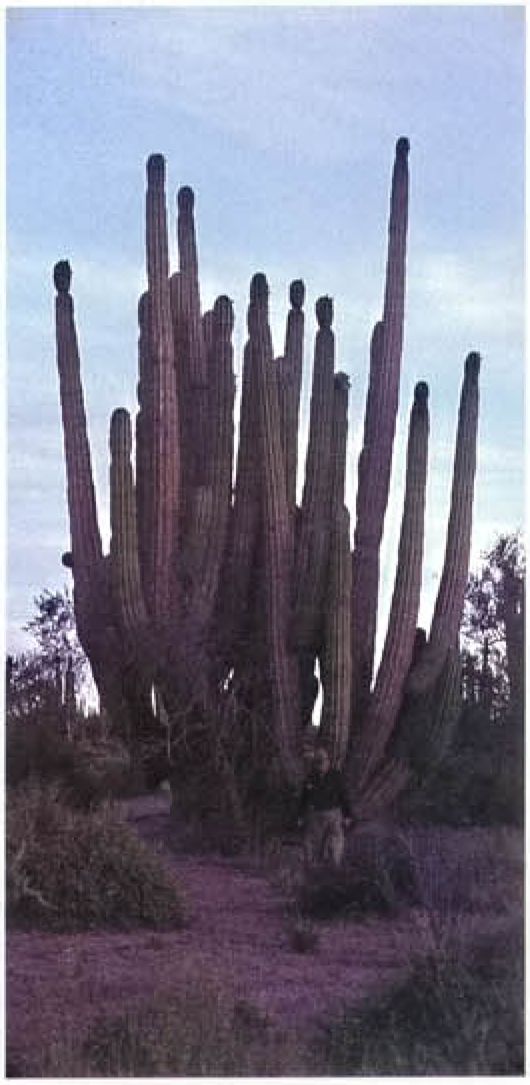
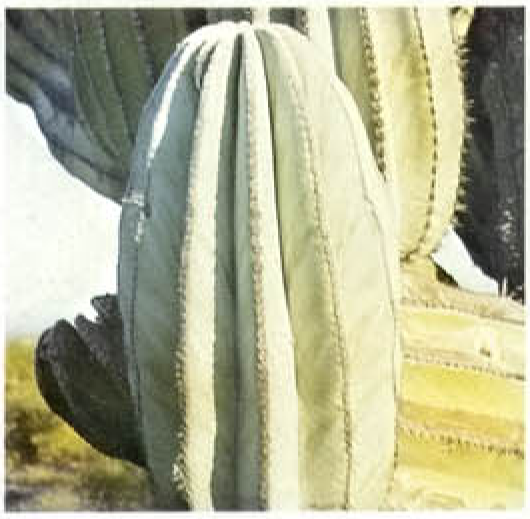
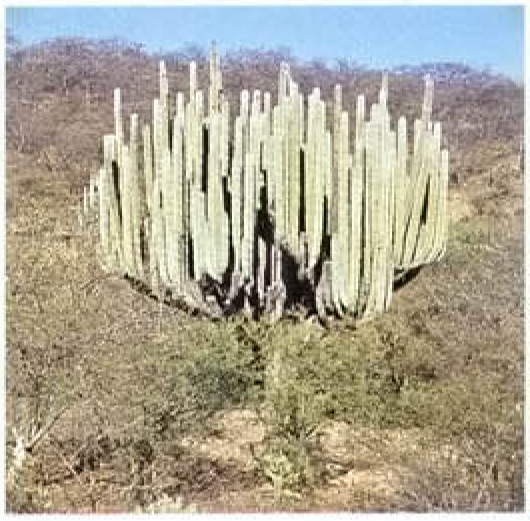




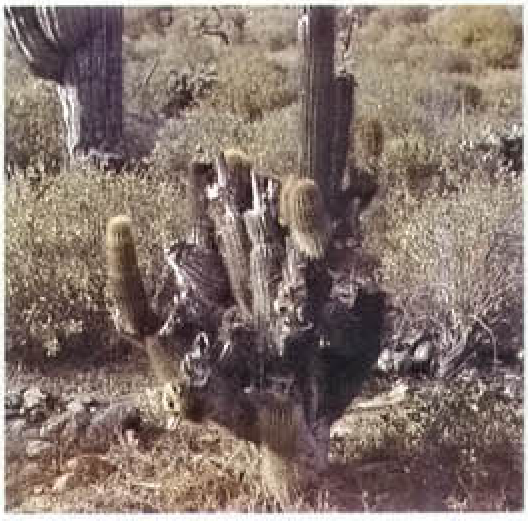
PACHYCEREUS **PRINGLEI** (S. Wats.) Br. & R.

Tree-like, up to about 39ft tall, the main trunk up to 2ft diameter. It has many erect, sturdy, grayish-green to dark green branches and 10–16 rounded ribs closely set with large, oval, grayish areoles bearing reddish-gray spines. About 20 are radials to ¾in long, and one to three are centrals, slightly longer. Nocturnal flowers appear in summer; about 3¼in long, and have white inner petals and greenish-red outer ones. Needs bright light; normal cactus compost; minimum temperature 50°F. Occasionally a crestlike growth occurs. *Mexico (Sonora, Baja).*



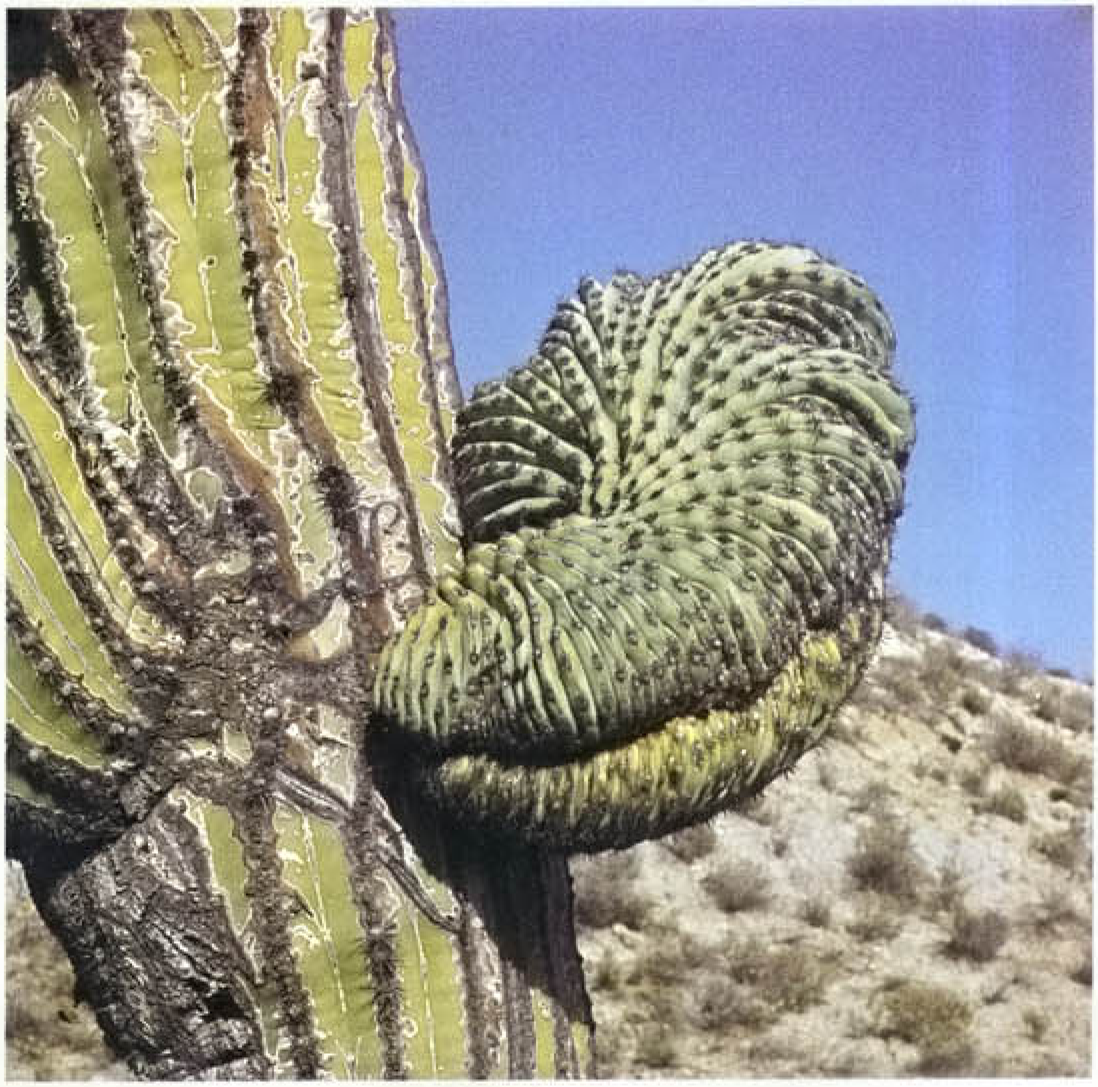
PACHYCEREUS **WEBERI** (Coult.) Backeb.
Syn: *Lemaireocereus weberi* (Coult.) Br. & R.

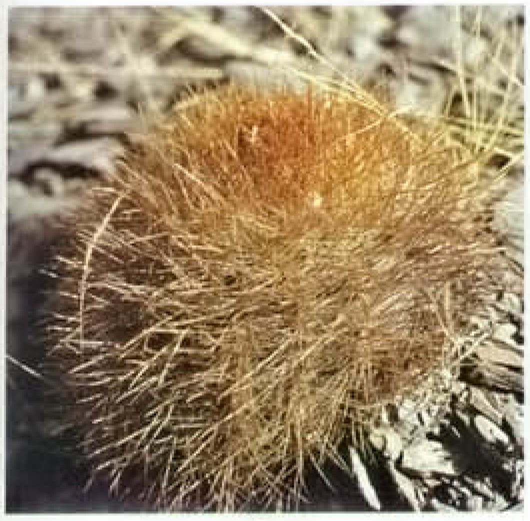
A giant tree-like, columnar plant up to about 33ft tall, branching from well above the base with erect, almost bluish-green branches about 4in or more thick. It has eight to ten ribs with elongated areoles 1–2in apart and about nine reddish-brown or black radial spines ¾–1in long, and one flat central up to 4in in length. The flowers are nocturnal, yellowish white, and up to 4in long, appearing in mid-summer. Requires sun and warmth; normal cactus compost; minimum temperature 55°F. *Mexico (Puebla, Oaxaca).*



× PACHYGEROCEREUS **ORCUTTII** (K. Brand.) Moran
Syn: *Cereus orcuttii* K. Brand.

An erect columnar plant up to about 10ft high. The bright green stems are 6in thick, branching from the base, and there are 14–18 ribs with round grayish areoles set about 1in apart bearing brownish spines. These consist of 12–20 spreading radials ½–¾in long and five centrals up to 3in or slightly longer, and also spreading. Flowers, diurnal in summer, are about 1½in long and pale brownish. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Baja).*





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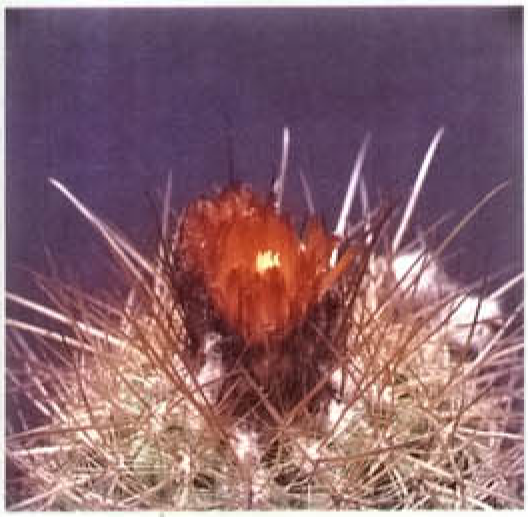

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PARODIA **AUREICENTRA** Backeb.

A dark green globular plant about 6in in diameter and densely covered with dark yellowish-brown spines. It has 13–15 ribs with white woolly areoles bearing about 40 radial spines and six to ten centrals, all up to ¾in or a little more in length. Flowers are a deep bright red, about 1½in across, and appear by day, in summer. Needs bright light; normal cactus compost; minimum temperature 50°F. *Argentina (Salta).*

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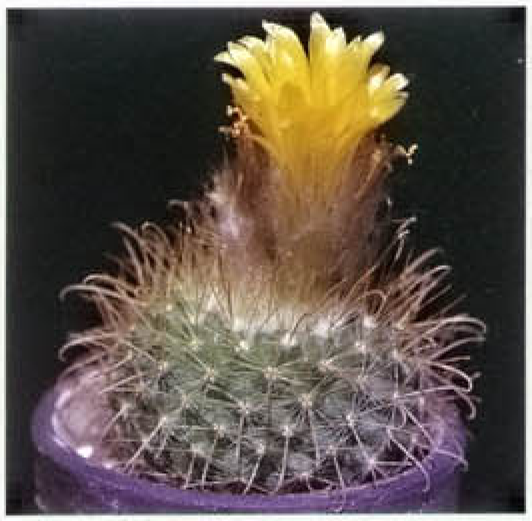

PARODIA **AUREISPINA** Backeb.

Fresh-green globular plants about 2¾in diameter, with about 16 spiraling ribs divided into small tubercles. The areoles bear about 40 whitish radial spines about ⅓–½in long and six yellowish-brown centrals ⅔–¾in in length, one of which is hooked at the tip. Flowering in mid-summer, the golden-yellow blooms are diurnal, and are about 1in in diameter. Requires bright light; normal cactus compost; minimum temperature 50°F. *Argentina (Salta).*

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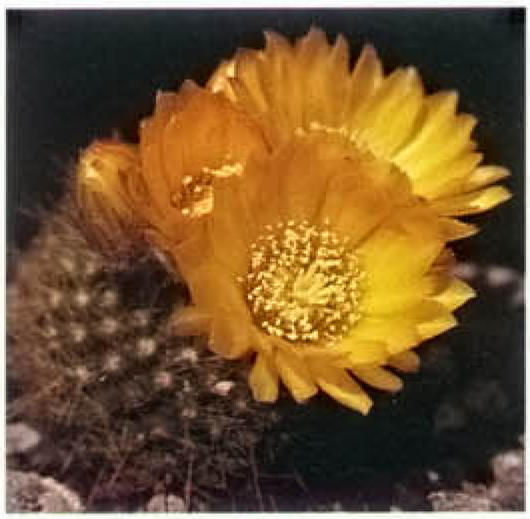

PARODIA **AUREISPINA** (Backeb.) **var. SCOPAOIDES** (Backeb.) Brandt

This is similar to the species, about 2½in in diameter, to 4in high. Deep green in color, it has numerous small whitish radial spines and to four reddish centrals ⅔in long. The flowers are orange-yellow, 1in in diameter. Requirements are the same as for the species. *Argentina (Salta).*

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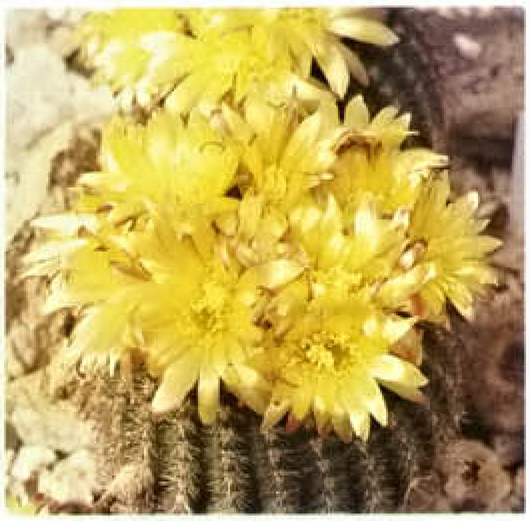

PARODIA **BREVIHAMATA** W. Haage

An olive-green globular plant about 1½in in diameter, with 24–30 ribs. The close-set white or yellowish areoles are set on the tips of rounded tubercles and there are about 16 yellowish-white radial spines ⅒in long and four to six yellow, becoming brownish, centrals up to ⅕in in length. Summer flowering, the bright yellow flowers are diurnal, and about ¾in in diameter. Needs bright light, which is essential; normal cactus compost; minimum temperature 50°F. *Brazil (Rio Grande do Sul).*

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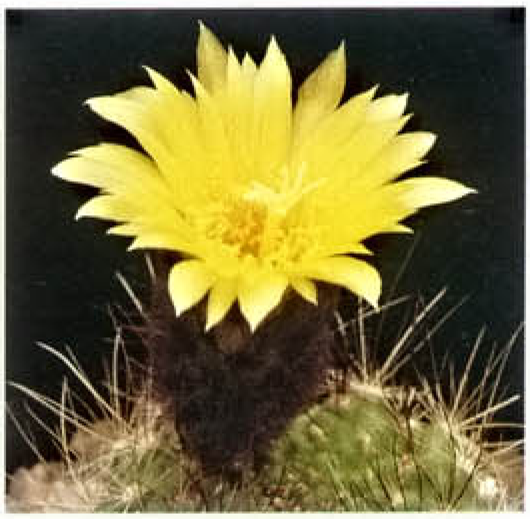

PARODIA **BUENEKERI** Buin.

Deep-green globular plants about 2in high, 2½in in diameter, with up to 20 ribs. The areoles are grayish white and bear about 13 whitish radial spines from ⅕in to over ¾in in length, and five to six brownish centrals 1in long. Mid-summer flowering and diurnal, the flowers are golden yellow, about 1½in long and across. Needs bright light, which is essential; normal cactus compost; minimum temperature 50°F. *Brazil (Rio Grande do Sul).*

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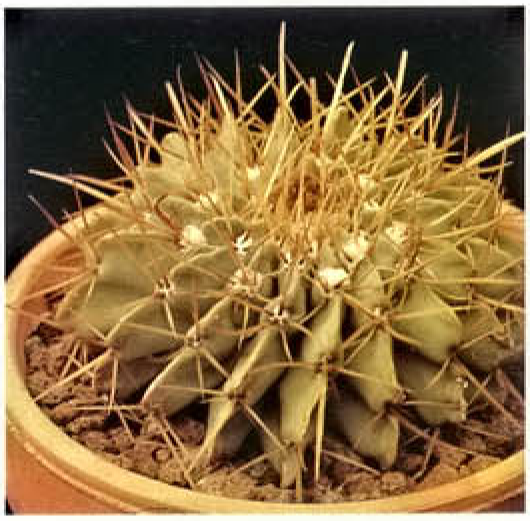
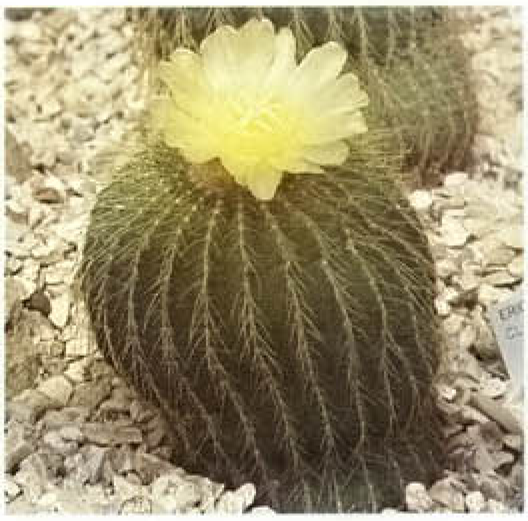


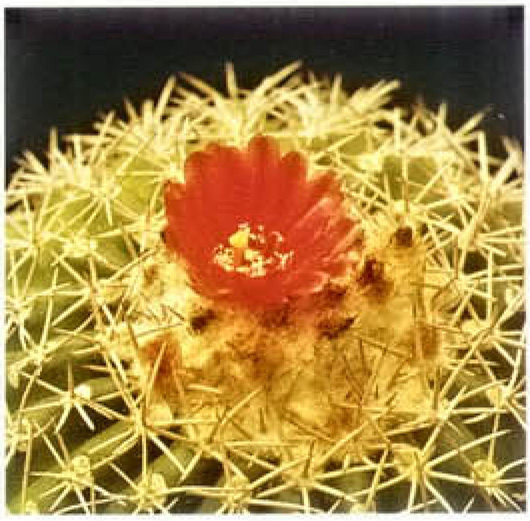
PARODIA **BUININGII** (Buxb.) N. P. Taylor
Syn: *Notocactus buiningii* Buxb.

A dark green globular plant about 4¾in in diameter, 3¼in high, with 16 or more well-defined ribs. New areoles have white wool with a very few inconspicuous radial spines, but four dark-brown central spines with paler tips ½in or more in length. The flowers are yellow, about 3in long, and appear by day in summer. Requires very good light; normal cactus compost; minimum temperature 50°F. *Uruguay.*



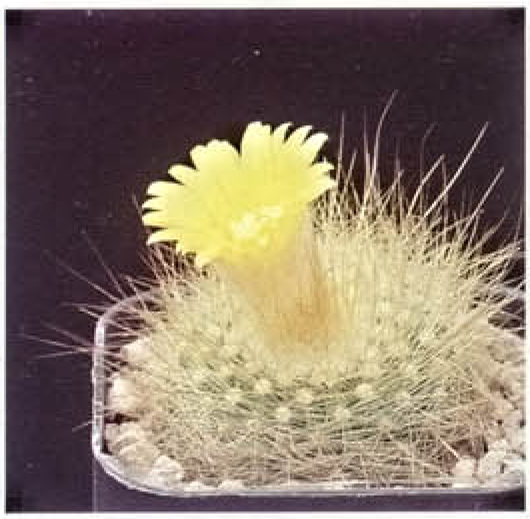
PARODIA **CLAVICEPS** (Ritter) Brandt
Syn: *Eriocactus claviceps* Ritter; *Notocactus claviceps* (Ritter) Krainz

A dark green, more or less cylindrical, club-shaped plant up to 1½ft tall and about 4¾in wide, with around 26 ribs. The areoles are whitish, carrying many somewhat drooping, soft yellowish spines up to ½in in length. Mid-summer flowering and diurnal, the flowers are sulfur yellow and 1½–2in across. Requires a bright position; normal cactus compost; minimum temperature 50°F. *Paraguay, Brazil.*



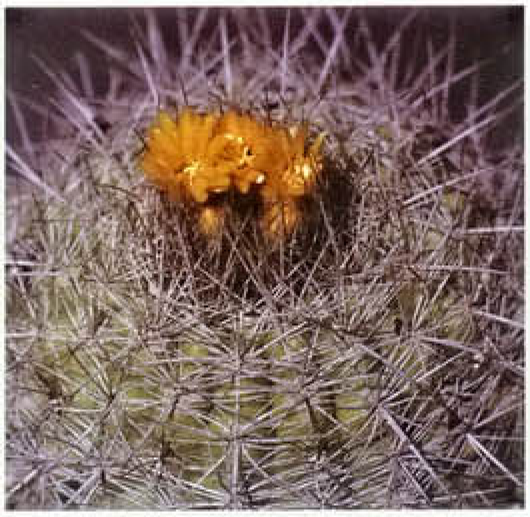
PARODIA **COMPRESSA** Ritter

A dark green, somewhat elongated, globular plant up to 6in tall, 2½in in diameter, with 14–22 ribs. The white areoles carry six to nine radial spines ⅕–½in long and one to four yellowish-brown centrals about ⅓in long. The flowers are red, 1in long and about ¾in in diameter, and are day flowering in summer. Needs fairly bright light; normal cactus compost; minimum temperature 50°F . *Bolivia (Oropeza).*



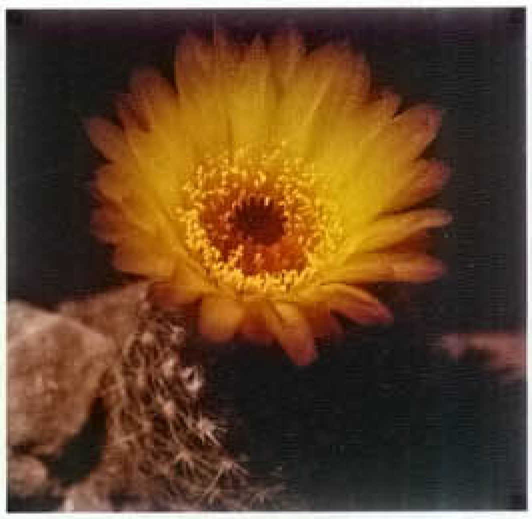
PARODIA **CHRYSACANTHION** (K. Sch.) Backeb.
Syn: *Echinocactus chrysacanthion* K. Sch.

Pale green globular plants about 4in in diameter, 2½–3¼in high. They have about 24 ribs spirally arranged and divided into tubercles, and the yellowish-white areoles bear 30–40 fine yellow radial spines and one or more centrals ½–1in in length. Flowering in mid-summer, the yellow blooms are diurnal and about ¾in long and across. Requires a sunny position; normal cactus compost; minimum temperature 50°F. *Argentina (Salta, Jujuy).*



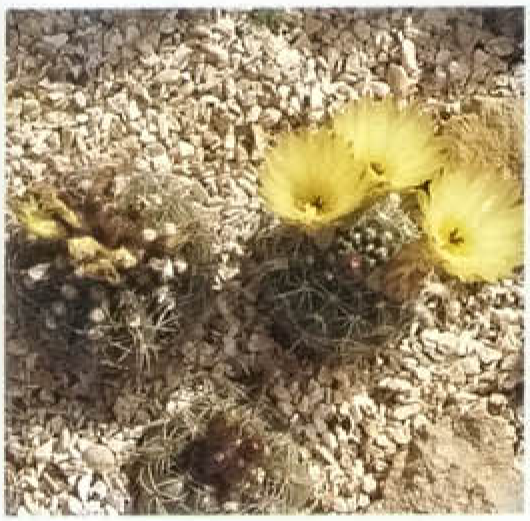
PARODIA **COMARAPANA** Card.

Globular plants about 3¼in in diameter and 2in high with 18–20 bumpy ribs and gray-white areoles. The spines are brownish, of which there are 18–23 radials and three to four centrals, varying from ⅒–¾in in length. Flowering in mid-summer, the flowers are diurnal, yellowish orange in color, and about 1in long to ½in across. Requires bright light; normal cactus compost; minimum temperature 50°F. *Bolivia (Comarapa).*



PARODIA **CONCINNA** (Monv.) N. P. Taylor
Syn: *Notocactus concinnus* (Monv.) Berger

A dull-green, somewhat flattened globular plant up to 2½in high, 4in wide, with 16–18 ribs. The whitish areoles bear 10–12 bristly yellow spines up to ⅓in long and four yellowish-brown centrals to ¾in. Flowers are deep yellow, 3in long, and appear by day in summer. Needs bright light; normal cactus compost; minimum temperature 50°F. *Brazil, Uruguay.*



PARODIA **CRASSIGIBBA** (Ritter). N. P. Taylor

Syn: *Notocactus crassigibbus* Ritter

A dark-green, rather flattened globular species 2–7in in diameter, with 10–15 ribs set with prominent chin-like protuberances. White woolly areoles bear seven to ten radial spines and usually one pale-brown central which becomes gray and is ¾–1in long. Day flowering in early summer, the flowers are sulfur yellow, 2–2½in across. Requires bright light; normal cactus compost; minimum temperature 50°F. *Brazil (Rio Grande do Sul).*

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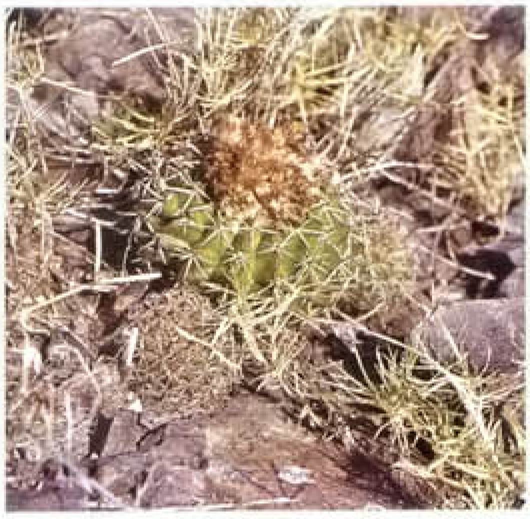

PARODIA **ERINACEA** (Haw.) N. P. Taylor

Syn: *Wigginsia erinacea* (Haw.) D. M. Port.; *Malacocarpus erinaceus* (Lem.) Rumpl.

Dull-green globular plants up to about 6in high and in diameter with 15–20 somewhat spiraling ribs and areoles about ½in apart. The spines are brown, becoming gray, of which there are six to eight radials up to ½in long, and one central to 1in. Flowers are funnel-shaped, yellow, and about 1½in long, 3in across; they are day flowering, in summer. Needs bright light; normal cactus compost; minimum temperature 50°F. *Uruguay, Brazil, Argentina.*

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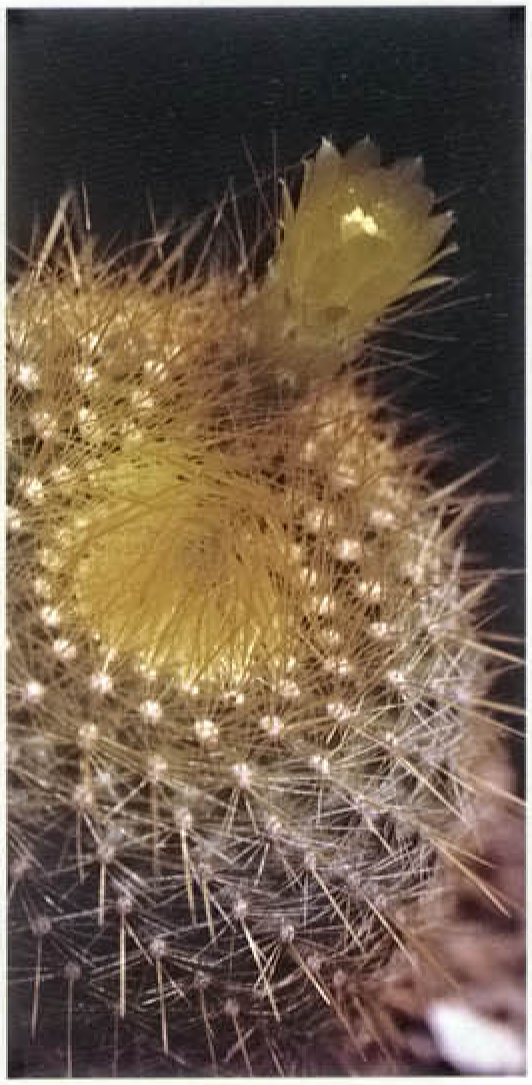

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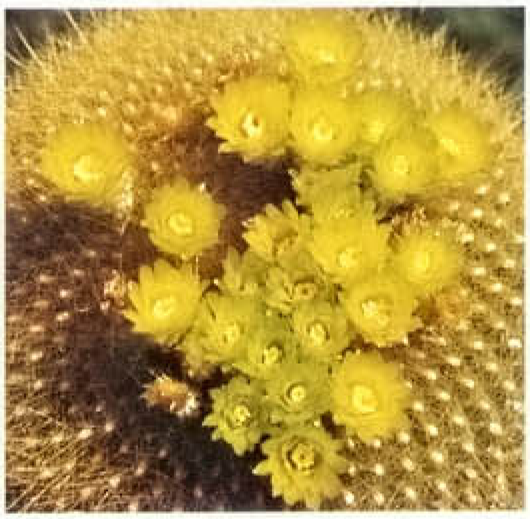

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PARODIA **GRAESSNERI** (K. Sch.) Brandt.

Syn: *Notocactus graessneri* (K. Sch.) Berger

A dark green solitary, globular plant about 4in high and wide, with 50–60 ribs divided into prominent tubercles. The areoles are whitish with about 60 yellow spines, mostly radials: there are only five to six centrals, up to ¾in long. Flowers are a pale yellowish green, about ⅔in long, and appear by day in summer. Needs good light; normal cactus compost; minimum temperature 50°F. *Brazil (Rio Grande do Sul).*

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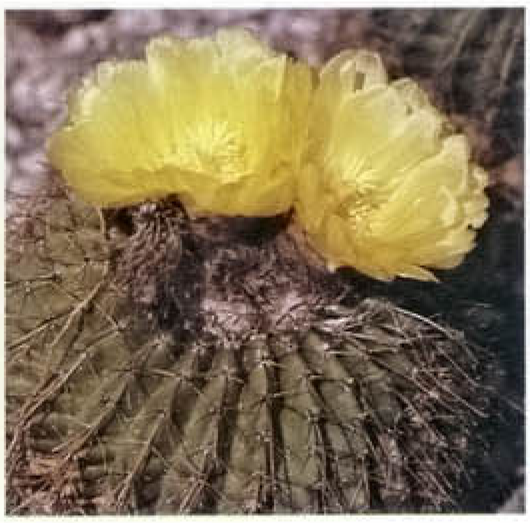

PARODIA **GROSSEI** (K. Sch.) Brandt

Syn: *Eriocactus schumannianus* (Nic.) Backeb.; *Notocactus schumannianus* (Nic.) Berger

Dark-green globular plants, 2½–3¼in wide becoming elongated to about 3ft tall, the crown set at an angle, with about 30 prominent ribs. The areoles are brownish with four to seven or more yellowish-brown spines up to ¾in long. It is summer flowering, diurnal, with yellow flowers about 1⅓in long, 1½in in diameter. Needs bright light; normal cactus compost; minimum temperature 55°F. *Paraguay.*

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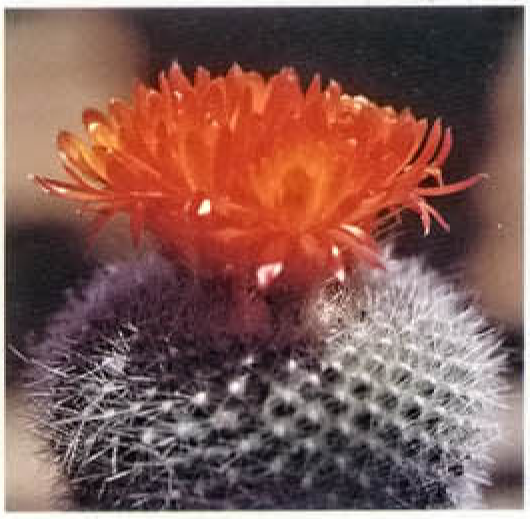

PARODIA **HASELBERGII** (Haage Jr.) Brandt

Syn: *Notocactus haselbergii* (Haage Jr.) Berger; *Brasilicactus haselbergii* (Haage Jr.) Backeb.

A grayish-green, globular plant about 4in wide with 30 or more ribs and the woolly crown set at an angle. The white areoles bear 20 or more yellowish-white radial spines up to ½in in length, and three to five more yellowish centrals slightly longer. Summer flowering, and diurnal, the flowers are yellowish red or orange-red and about ⅔in long. Needs bright light; normal cactus compost; minimum temperature 50°F. *Brazil (Rio Grande do Sul).*

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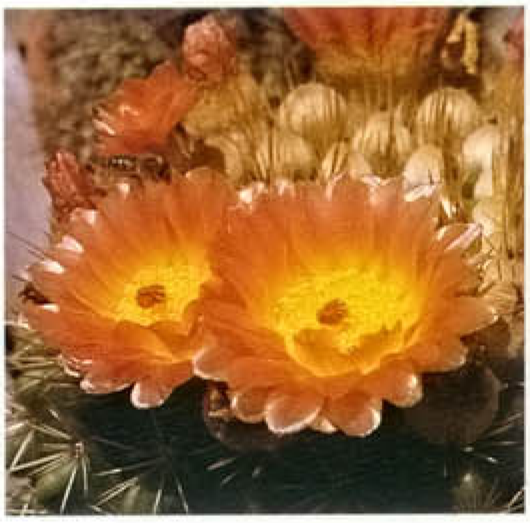

PARODIA **HERTERI** (Werd.) N. P. Taylor
Syn: *Notocactus herteri* Werd.

A pale green plant with somewhat globular stems about 6in in diameter, and about 22 prominently tubercled ribs. The tubercles are rather conical in shape and the brownish areoles have eight to eleven white, often brown-tipped, radial spines to ¾in long, and usually four dark brownish-red centrals of similar length. The flowers, appearing by day in summer, are purplish red with a paler, yellowish throat about 1½in long. Needs bright light; normal cactus compost; minimum temperature 50°F. *Uruguay.*

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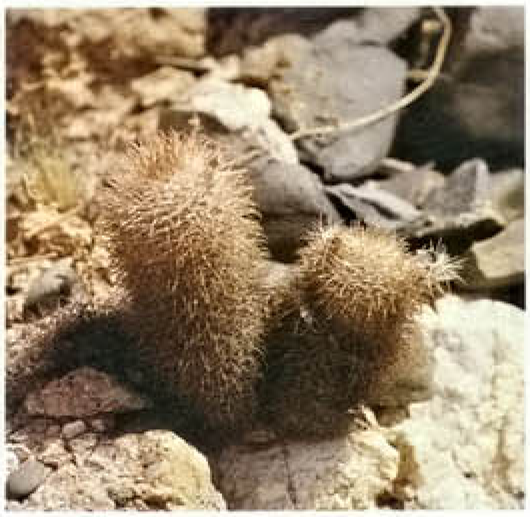

PARODIA **HETERACANTHA** Ritter

An elongating, bluish to grayish-green globular plant 1½–3¼in in diameter with many ribs, and densely covered with bristly spines. The areoles are of whitish-brown wool and the comparatively few radial spines are whitish, the centrals dark brown. Flowers are unknown. This still appears to be botanically undescribed and might well be associated with another species. *Argentina (Salta).*

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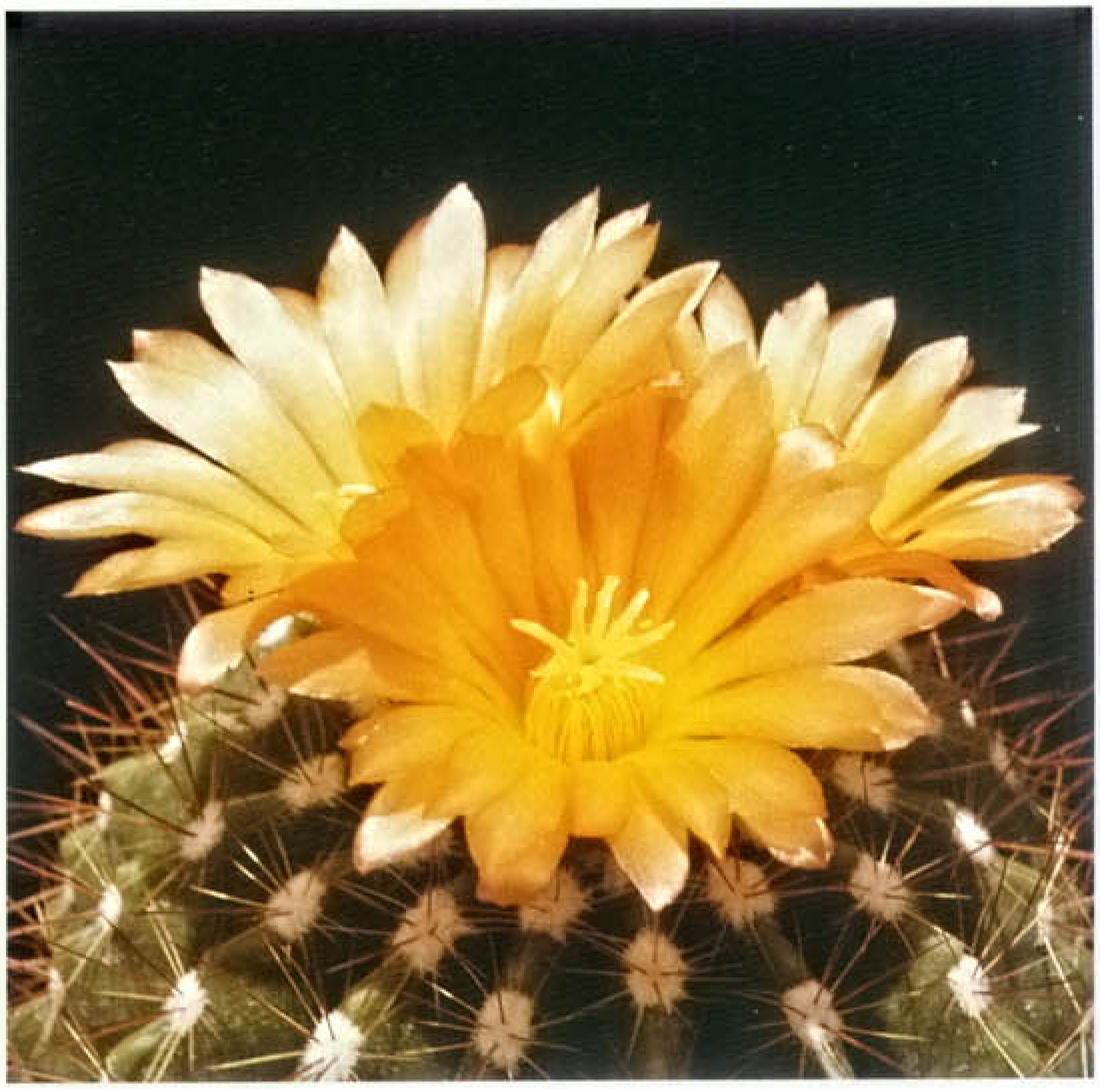

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PARODIA **HORSTII** (Ritter) N. P. Taylor
Syn: *Notacactus horstii* Ritter

A globular plant about 5½in in diameter with a spiny, white woolly crown. It has 12–16 ribs, and the areoles bear 10–15 white or slightly brownish radial spines ½–1in in length and one to four brown, longer centrals. The plant is summer flowering by day, with flowers orange-red to vermilion, more yellowish internally, and 1–1⅓in long. Requires bright light; normal cactus compost; minimum temperature 55°F. *Brazil (Rio Grande do Sul).*

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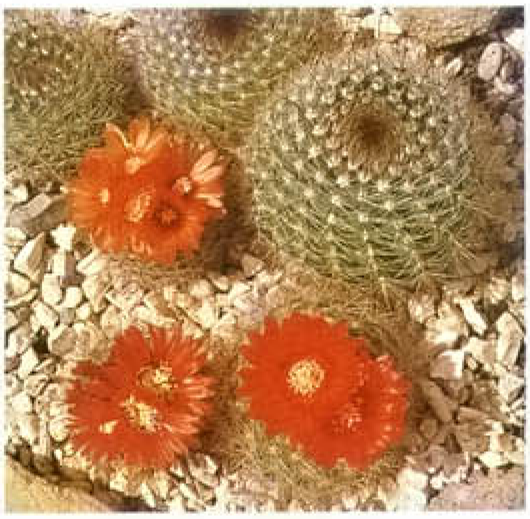

PARODIA **LAUI** Brandt

A dark green globular species 2½–3½in in diameter, with about 20 ribs. The areoles are white to brown, and there are numerous whitish appressed radial spines and one or two brownish centrals up to ½in long. Flowers are dark red and up to 1in long, about ⅔in or a little more across; they appear in summer and are diurnal. Needs good light, which is essential; normal cactus compost; minimum temperature 50°F. *Bolivia.*

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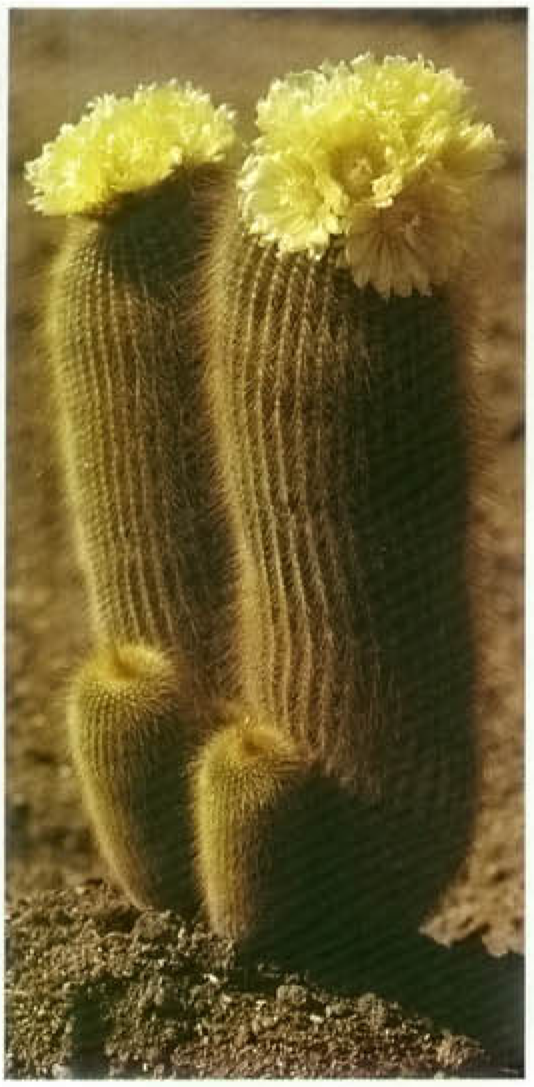

PARODIA **LENINGHAUSII** (Haage Jr.) Brandt
Syn: *Eriocactus leninghausii* (Haage Jr.) Backeb. *Notocactus leninghausii* (Haage Jr.) Berger

A globose later columnar species with the crown set at an angle. Up to 3ft high, 4in thick, and has about 30 ribs. The small, white areoles bear about 15 pale yellow radial spines and three to four deeper yellow centrals, up to 1½in in length. Day flowering in mid-summer, bright yellow, about 1½in long, 2in across. Needs sun; normal cactus compost; minimum temperature 50°F. *Southern Brazil.*

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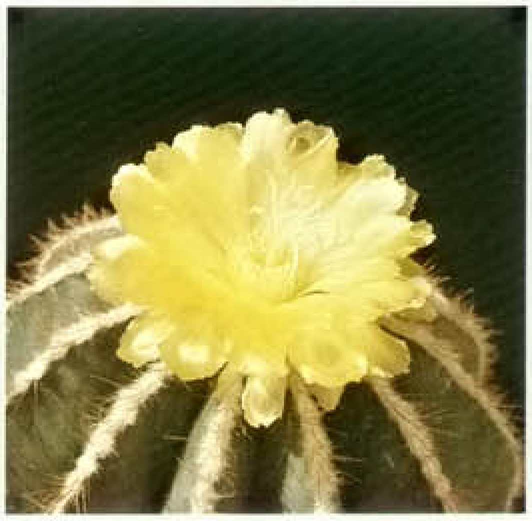

PARODIA **MAGNIFICA** (Ritter) Brandt
Syn: *Notocactus magnificus* (Ritter) Krainz

Bluish-green, globular-stemmed plants, frequently offsetting to form clumps. The stems are up to 6in in diameter with 11–15 ribs and gray-felted areoles. There are numerous whitish radial spines about ⅓in long, and about 12 brownish centrals ½–¾in in length. Summer flowering, the plant is diurnal, with sulfur-yellow flowers about 2in long and across. Needs bright light, which is essential; normal cactus compost; minimum temperature 50°F. *Brazil (Rio Grande do Sul).*

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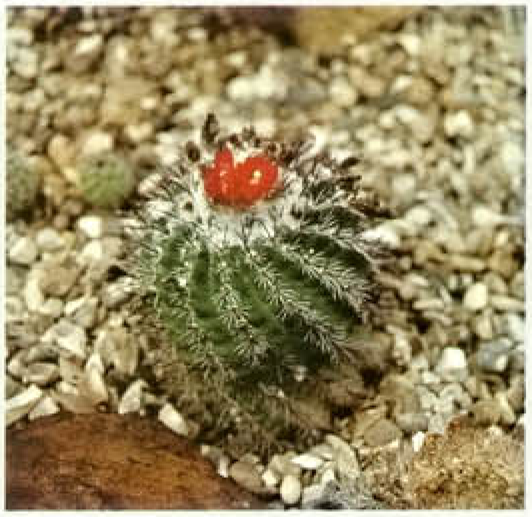

PARODIA **aff. MAIRANANA** Card.

Uncertainty exists as to the specific title. It has been stated to have a close relationship with *P. horstii*. The dark-green body with its woolly crown is 2–2½in in diameter with about 14–15 spiraled ribs. The brownish-red areoles bear seven to nine whitish radial spines and one to four brown centrals. Flowers are carmine red, ½–¾in long, and appear by day in summer. Needs bright light; normal cactus compost; minimum temperature 50°F. *Bolivia.*

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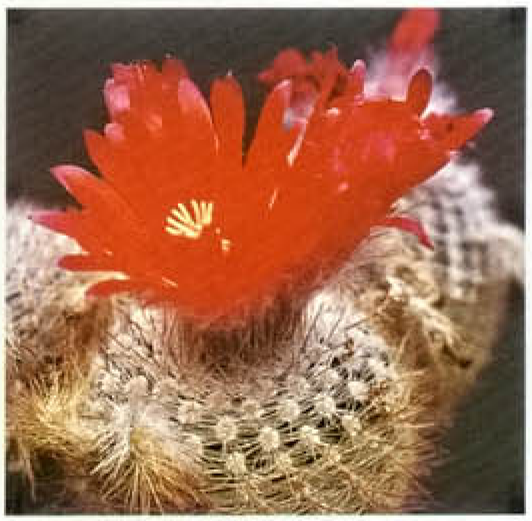

PARODIA **MALYANA var. RUBRIFLORA** Brandt.

A bright green globular plant with 24 or more slightly spiraled ribs. The whitish areoles bear over 20 grayish-brown, darker-tipped radial spines and two to three or more fine centrals of similar coloring. Flowers are bright red, funnel-shaped, and about 1½in long; they are day flowering, in summer. Needs bright light, which is essential; normal cactus compost; minimum temperature 50°F. *Argentina (Catamarca).*

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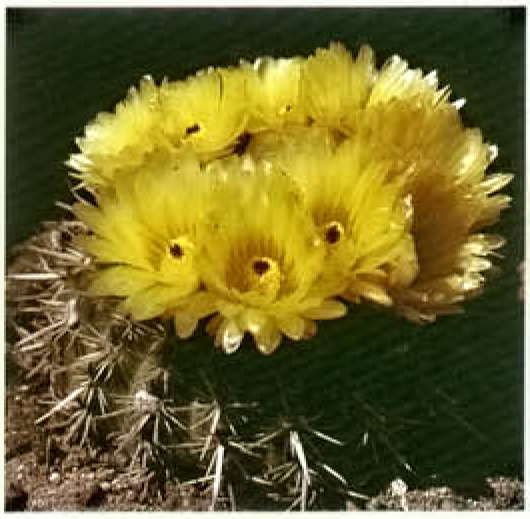

PARODIA **MAMMULOSA** (Lem.) N. P. Taylor
Syn: *Notocactus mammulosus* (Lem.) Backeb.

A dark green globular plant about 2½in in diameter and up to 4in tall with 18–20 ribs. Areoles bear 10–13 or more yellowish-white radial spines ⅕in long and three to four brown-tipped yellow centrals ½–⅔in in length. Day flowering in summer, the flowers are bright yellow with a prominent reddish stigma, and about 1½in long. Requires good light; normal cactus compost; minimum temperature 50°F. *Argentina, Uruguay.*

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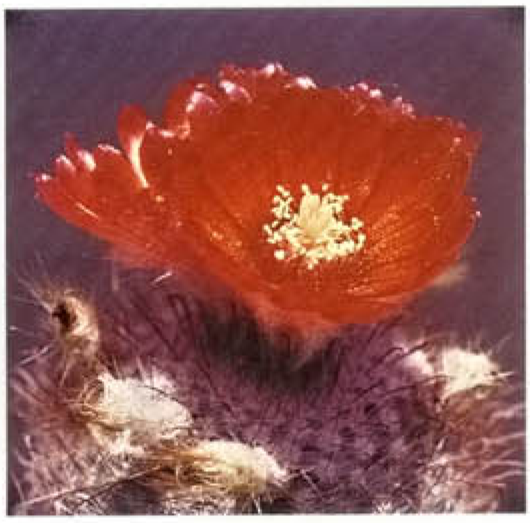

PARODIA **MINUTA** Ritter

Closely allied to *P. gibbulosa*, this is a small, dark bluish-green species 1½–2in diameter, with 25 or more closely set ribs. The areoles are whitish, and bear seven to nine fine whitish radial spines and one to three brown, hooked centrals. Flowers are bright red, 1in across, flowering by day in mid-summer. Needs sun; normal cactus compost; minimum temperature 50°F. *Bolivia (Valle Grande).*

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PARODIA **MUTABILIS** Backeb. **var. SANGUINIFLORA** (Backeb.) Brandt
Syn: *Parodia sanguiniflora* Frič ex Backeb.

A dark-green globular plant, 2–3¼in in diameter, with 25 or more spirally arranged ribs divided into tubercles. The areoles are whitish and bear about 15 white radial spines ¼–⅓in long and four reddish-brown centrals around ¾in in length. Deep-red flowers, 1–1½in in diameter, appear in mid-summer, and are diurnal. Requires bright light; normal cactus compost; minimum temperature 50°F. *Argentina (Salta).*

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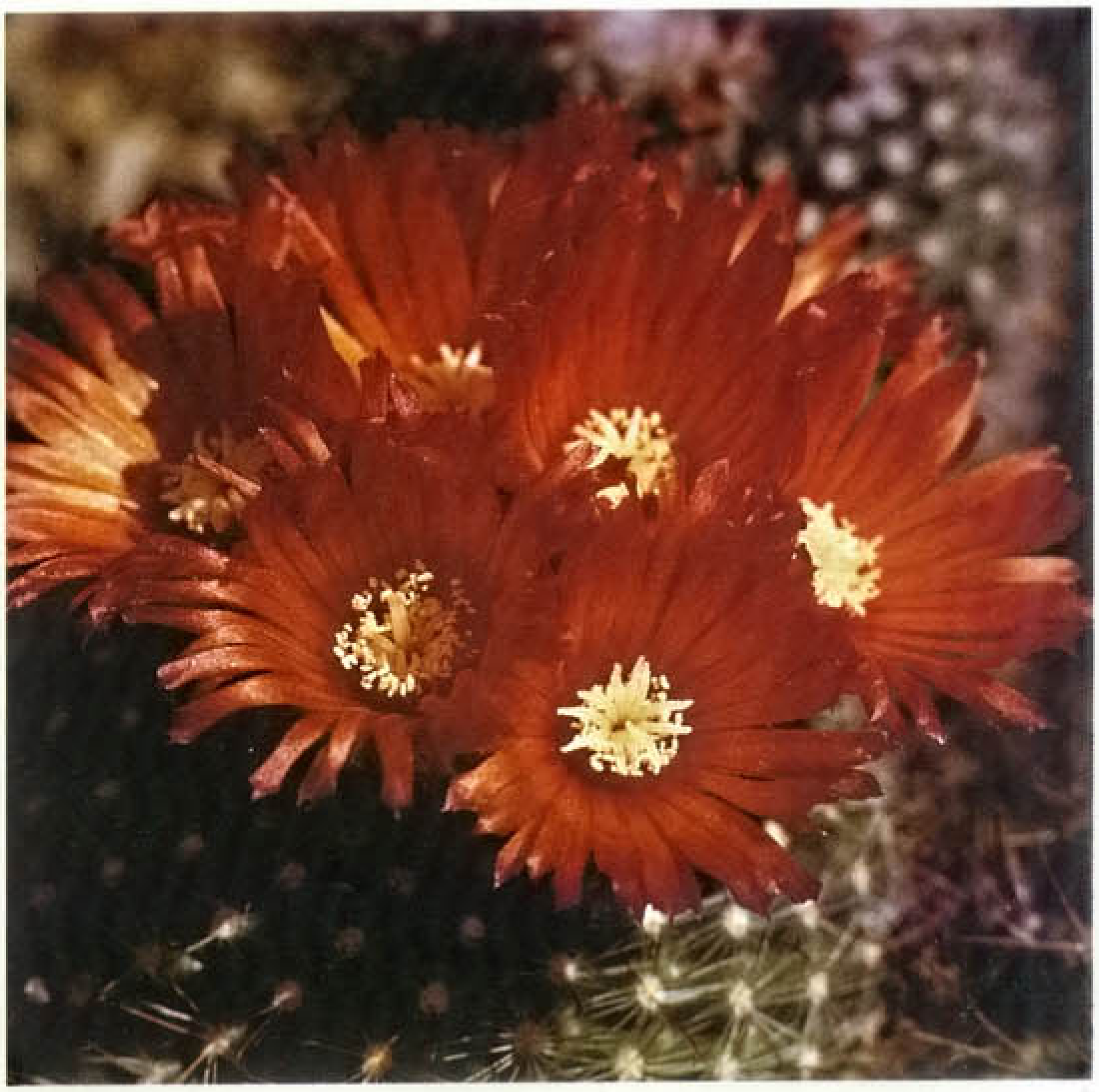

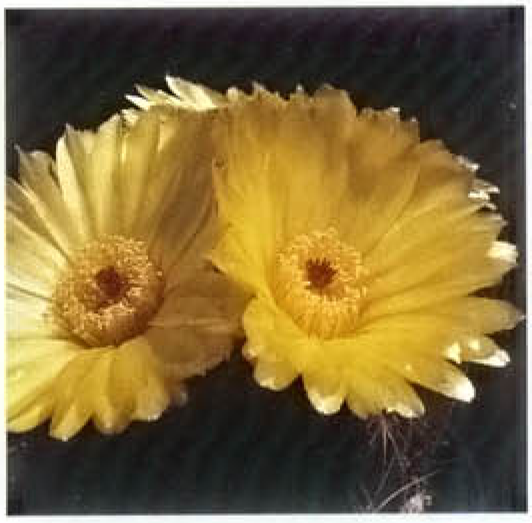

PARODIA **OTTONIS** (Lehm.) N. P. Taylor
Syn: *Notocactus ottonis* (Lehm.) Berger

A variable species with globular stems 2–4¼in in diameter. It has six to thirteen ribs and a white woolly crown, and there are eight to fifteen yellow radial spines with three to four brownish centrals, all ½–1in in length. Flowers are a deep yellow, 1½–2½in long, blooming by day in summer. Needs full sun; normal cactus compost; minimum temperature 50°F. *Brazil, Uruguay, Argentina, Paraguay.*

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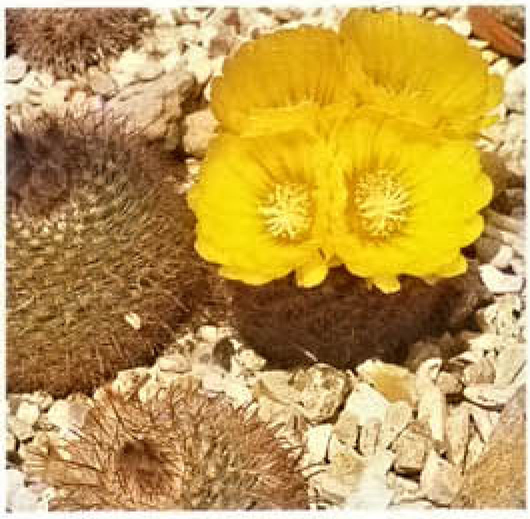

PARODIA **MUTABILIS** Backeb.

A high-altitude, globular species about 3¼in in diameter. It is glaucous green with a white woolly crown and ribs arranged in spirals. The white woolly areoles bear about 50 whitish radial spines and most usually four centrals, up to about ½in long. Day flowering in summer, the flowers are bright golden yellow and 1–2in across when fully open. Needs very bright light; normal cactus compost; minimum temperature 50°F. *Argentina (Salta).*

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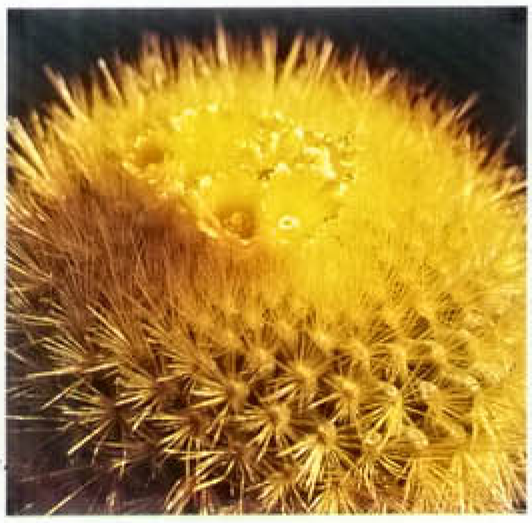

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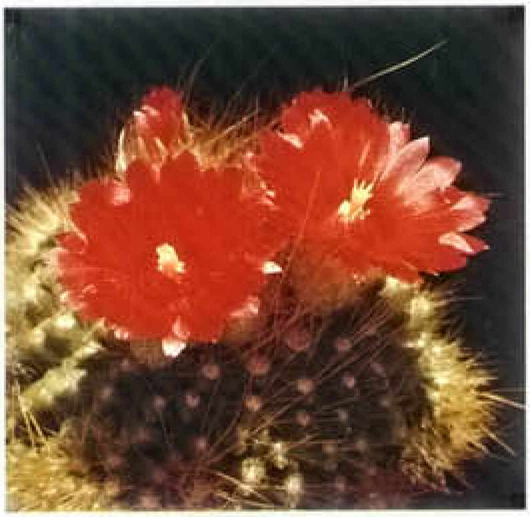

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PARODIA **PENICILLATA** Fechs. & Steeg

A tall, columnar plant up to 1ft 3in high, 4¾in thick. Mid-green in color, it has about 17 spirally arranged ribs closely set with tubercles. The brownish woolly areoles carry around 40 yellowish radial spines of varying lengths and one central 1–2in long. Flowers range from orange-yellow to vermilion, and are up to 2in long, 1½in in diameter; they appear in summer, and are diurnal. Requires a sunny position; normal cactus compost; minimum temperature 50°F. *Argentina (Salta).*

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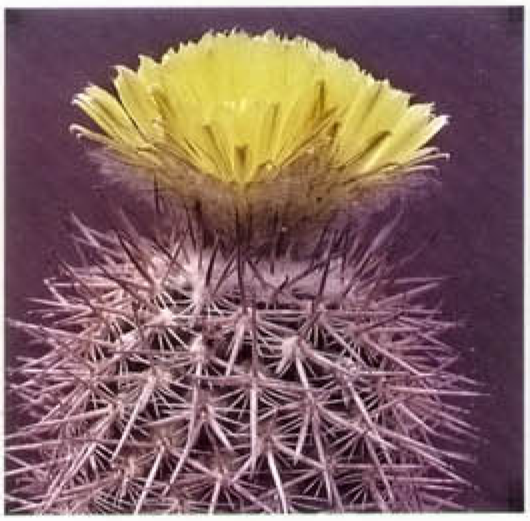

PARODIA **PILTZIORUM** Weskamp

A dark grayish-green, slightly elongated globular species with 20 or more spiraling ribs with large brownish-wool areoles. Spines are pale yellowish brown or horn-colored, consisting of 10–12 somewhat paler radials and usually four prominent centrals. The flowers are yellow, with outer segments having a brownish midstripe externally. They are day flowering, in summer. Needs bright light; normal cactus compost; minimum temperature 50°F. *Argentina (Salta).*

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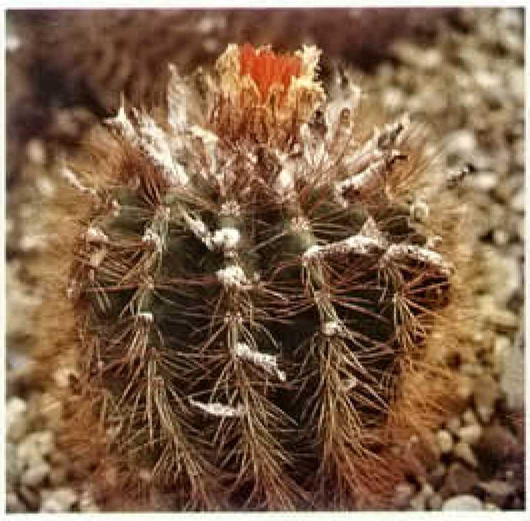

PARODIA **aff. PSEUDOSTUEMERI** Backeb.

This bluish-green plant is about 10in tall, 4¾in in diameter, with 13 or more ribs. The areoles bear 20–25 grayish-white to pale-brownish radial spines and about four brownish centrals, all up to ½in or slightly more in length. Flowers are orange-red, and about 1in long; they are summer flowering, and diurnal. Needs a sunny position; normal cactus compost; minimum temperature 50°F. *Northern Argentina(?).*

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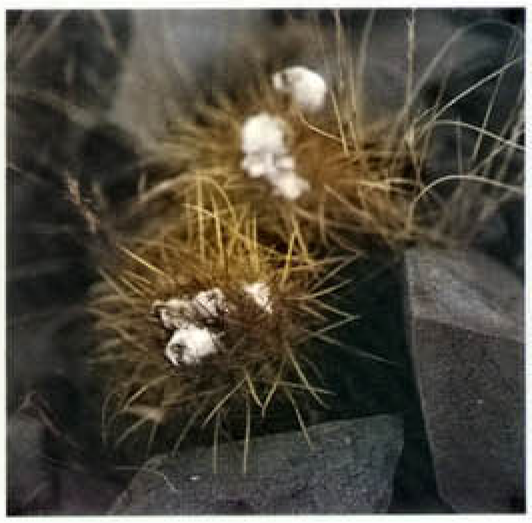

PARODIA **RAUSCHII** Backeb.

Stems are green, about 10in long and 6in wide with about 13 ribs. The pale-brownish areoles carry about 20 yellowish radial spines up to ½in long, and six yellowish centrals to 4in in length. Flowers appear by day, in summer, orange-red to red or, rarely, white. Needs bright light, which is essential; normal cactus compost; minimum temperature 50°F. *Argentina (Salta).*

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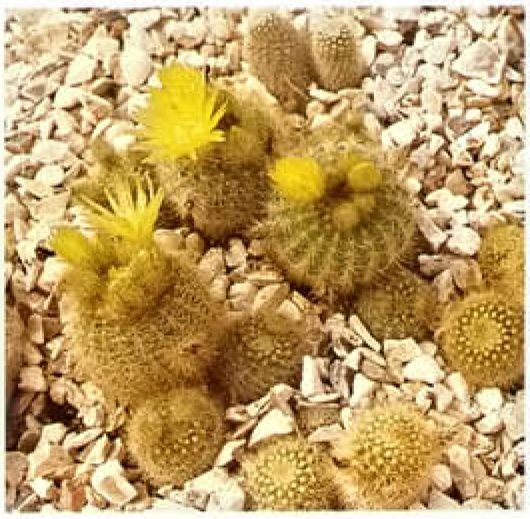

PARODIA **RECHENSIS** (Buin.) Brandt
Syn: *Notocactus rechensis* Buin.

A globular species, offsetting from the base to form clumps. The individual stems are bright green with about 20 ribs and whitish, becoming brownish, areoles. Spines are white or brownish-yellow: these consist of eight to twelve radials and one, sometimes more, central spine up to ½in in length. Flowering in summer, the flowers are diurnal, and a bright golden yellow, 1in or more broad when fully open. Requires sun; normal cactus compost; minimum temperature 50°F. *Brazil.*

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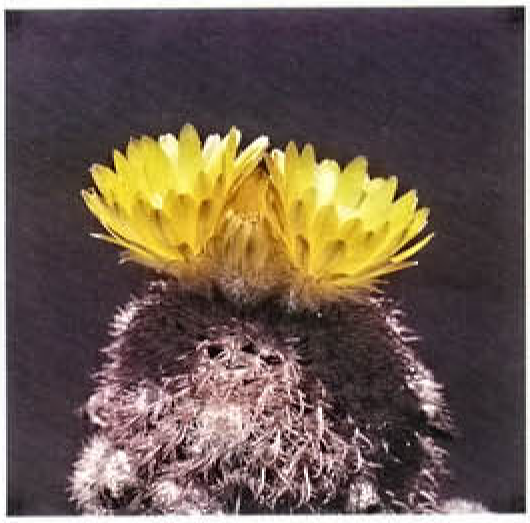

PARODIA **RIGIDA** Backeb.

A small globular plant about 1¾in tall and in diameter, with 16–20 ribs. Whitish or pinkish-white spines are made up of seven to nine radials about ⅕in long, and three to four centrals up to ⅓in in length. The flowers, about ¾in long and across, are bright yellow with a white throat, and appear by day in summer. Requires bright sun; normal cactus compost; minimum temperature 50°F. *Northern Argentina.*

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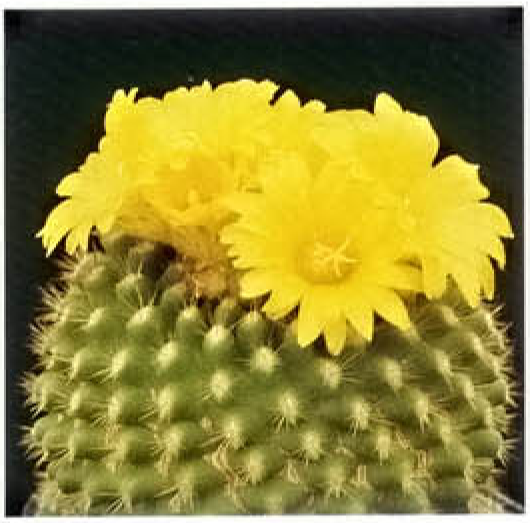

PARODIA **SAINT-PIEANA** Backeb.

A globular species 1½–2½in in diameter, offsetting freely to form clusters. It has about 22 ribs spirally arranged and divided into conical tubercles. The yellowish-white areoles bear around 17 straight, very short yellowish or pale-brownish spines about ⅒in long. Appearing in mid-summer, the flowers are diurnal, bright yellow in color, and about 1in long and wide. Needs bright light; normal cactus compost; minimum temperature 50°F. *Argentina (Jujuy).*

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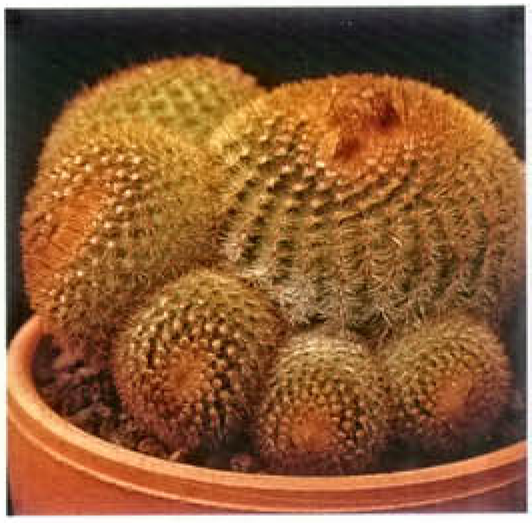

PARODIA **SCOPA var. GLAUSERIANUS** Krainz

In most features this is similar to the species – the radial spines are bright yellow, the central spines orangy red or chestnut brown. Flowers and requirements are the same as for the species. *Uruguay.*

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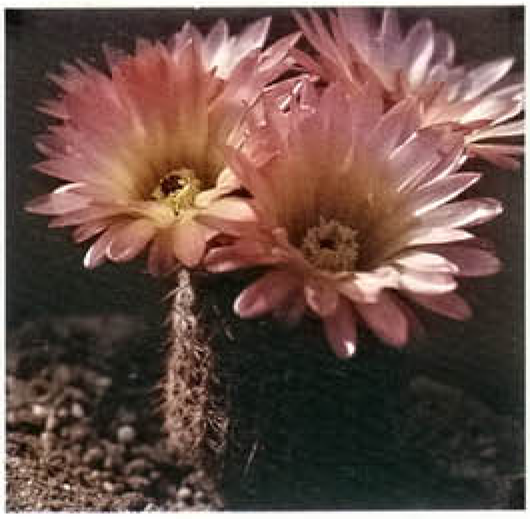

PARODIA **RUTILANS** (Dän.& Krainz) N. P. Taylor
Syn: *Notocactus rutilans* Dän. & Krainz

A rather roundish, bluish-green plant about 2in in diameter with 18–24 spirally arranged ribs. The white woolly crown is slightly sunken. Areoles are of whitish wool and carry 14–16 brown-tipped white radial spines ⅕in long and two slightly longer reddish-brown centrals. Summer flowering, and diurnal, the blooms are 1–1½in long, to 2½in across, and have pink tips to the petals, merging with a yellowish-white throat. Needs good light; normal cactus compost; minimum temperature 50°F. *Uruguay.*

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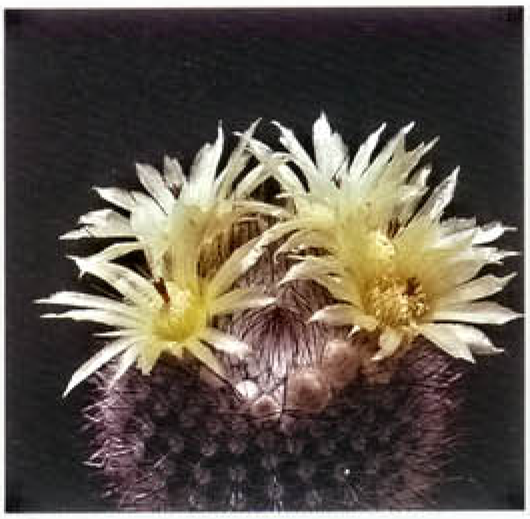

PARODIA **SCOPA** (Spreng.) N. P. Taylor
Syn: *Notocactus scopa* (Spreng.) Berger

A fresh-green, short cylindrical globose plant up to 10in high, 4in in diameter. It has a spiny, woolly crown and 30–35 ribs with areoles set about ⅓in apart. There are about 40 white radial spines up to ⅓in long and three to four reddish-brown central spines to ½in. Summer flowering, and diurnal, the flowers are canary yellow, about 1½in in diameter. Requires bright light; normal cactus compost; minimum temperature 50°F. *Southern Brazil, Uruguay.*

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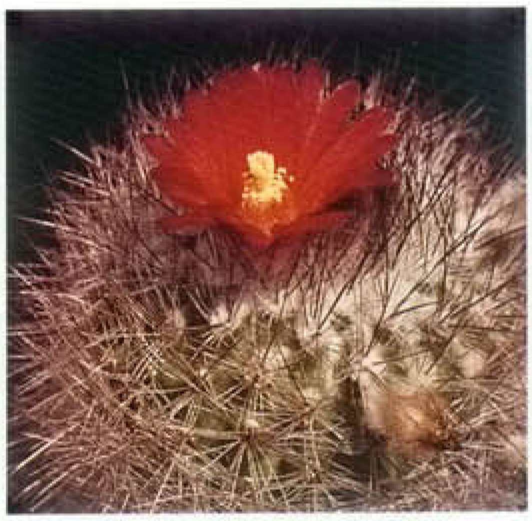

PARODIA **SETOSA** Backeb.

A bluish-green globular plant which becomes cylindrical and is up to 10in high, 4¾in in diameter. The crown is of dense white wool and there are about 35 ribs with areoles set on short but prominent tubercles. The whitish radial spines, numbering around 40, are ¾in long, and there are four reddish-brown central spines up to ½in. Flowering in mid-summer, and diurnal, the flowers are carmine red, and up to ¾in in diameter. Needs fairly bright light; normal cactus compost; minimum temperature 50°F. *Argentina (Tumbaya).*

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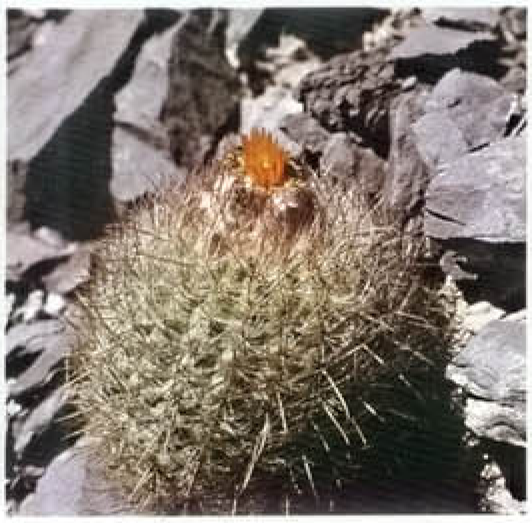

PARODIA **STUEMERI** (Werd.) Backeb.

Dull-green, somewhat globular plants to about 8in high, 6in diameter. There are 20 or more ribs, and the areoles bear about 25 whitish radial spines up to ¾in in length, and generally four brownish centrals to 1in. Flowers are yellowish orange or reddish, ¾–1½in long, and occur by day, in summer. Needs bright light; normal cactus compost; minimum temperature 50°F. *Argentina (Salta).*

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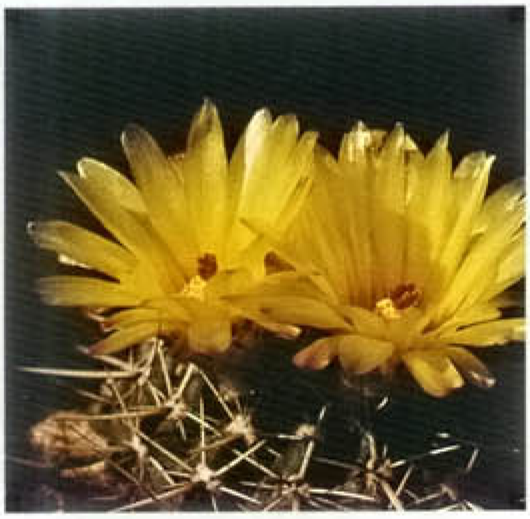

PARODIA **SUBMAMMULOSUS** (Lem.) N. P. Taylor
Syn: *Notocactus submammulosus* (Lem.) Backeb.

A globular species 2½–3½in in diameter, and dark grayish-green, with about 13–16 ribs divided into tubercles. The spines are yellowish-white, of which about six are radials to ½in in length, and one or two are rather flattened centrals up to ¾in long. Flowers are yellow, about 1½in long, and day flowering, in summer. Needs bright light, which is essential; normal cactus compost; minimum temperature 50°F. *Uruguay, Argentina.*

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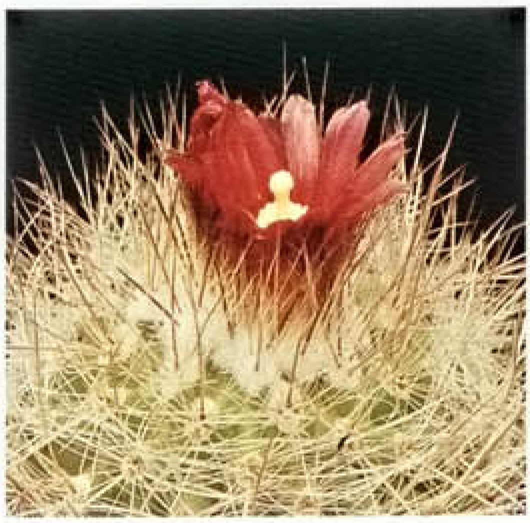

PARODIA **UHLIGIANA** Backeb.

A more or less globular, gray-green species about 4in in diameter, with a crown of dense white wool interspersed with reddish-brown spines. There are about 20 slightly spiraled ribs set with tubercles and the whitish areoles are ½in long, bearing about 35 similarly colored radial spines up to ½in long and four or more dark-brown centrals, one of which is up to 2in in length. Summer flowering, the flowers are diurnal, and are reddish brown or copper colored, 1in long. Requires a bright location; normal cactus compost; minimum temperature 50°F. *Argentina (Salta).*

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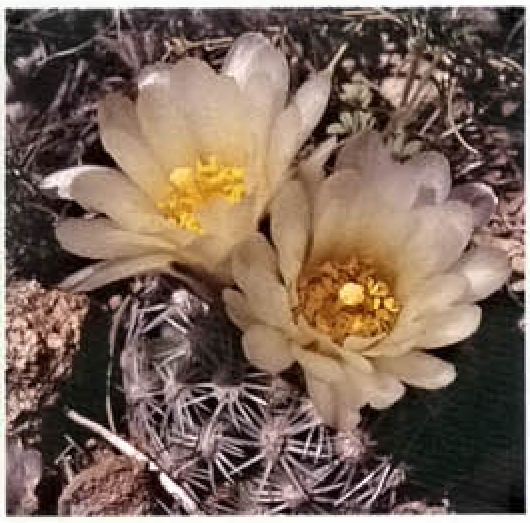

PEDIOCACTUS **BRADYI** L. Benson

More or less globular plants 1⅓–2½in long, 1–2in wide with well-distributed tubercles. The areoles are whitish, bearing 14–15 white or pale-yellowish radial spines ⅒–¼in long; there are no centrals. Day flowering, in summer, the flowers are yellowish-white, up to ¾in or more long, ⅔–1in across. Requires good light; normal cactus compost; minimum temperature 50°F. *USA (Arizona, Colorado).*

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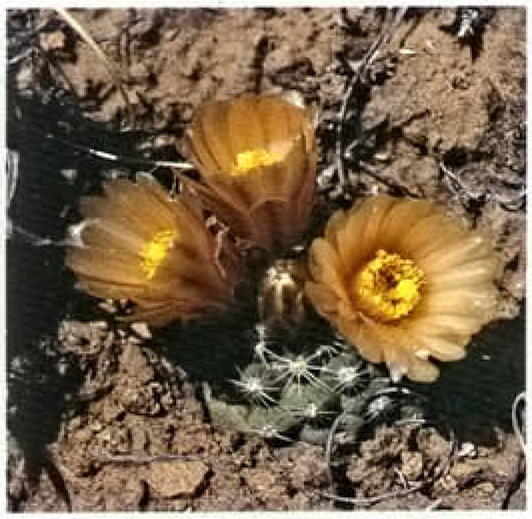

PEDIOCACTUS **DESPAINII** Welsh & Goodrich

Stems are sub-globose, up to 2½in high, 3¾in wide with prominent tubercles.
Areoles are elliptical, bearing nine to fifteen white radial spines ⅒–¼in long, but no centrals. The outer petals of the bronze-pink flowers have a purple midstripe, and the blooms are up to 1in long and wide. They are summer flowering by day. Needs good light; slightly calcareous cactus compost; minimum temperature 50°F. *USA (Utah).*

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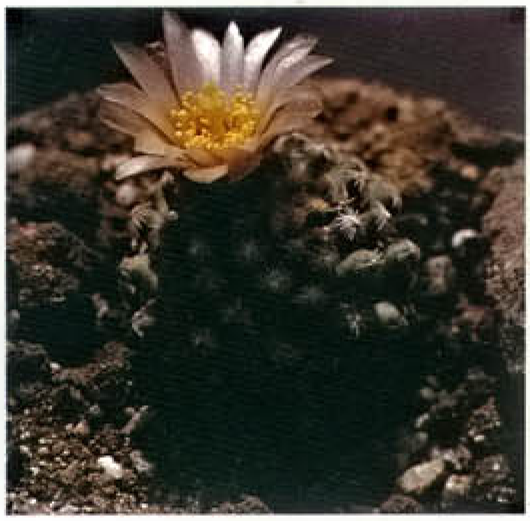

PEDIOCACTUS **KNOWLTONII** L. Benson
Syn: *Pediocactus bradyi* L. Benson and var. *knowltonii* (L. Benson) Backeb.

A dark greenish-brown, globular plant up to 1½–2in tall, 1–1½in wide. The 12–18 ribs have wart-like tubercles and small areoles bearing 18–23 fine hair-like spines of whitish pink 1/16in long, but no centrals. Day flowering, in summer, the flowers appear in the crown of the plant; they are very pale, almost creamy pink to rose, and about ⅔in long. Requires extremely careful watering; good light; rich permeable compost; minimum temperature 45°F. *USA (Colorado, New Mexico).*

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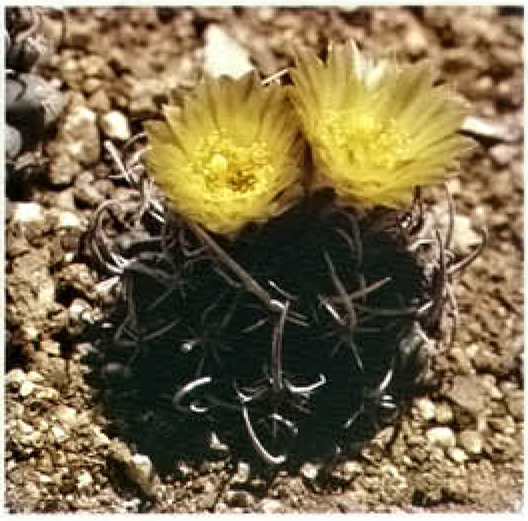

PEDIOCACTUS **PEEBLESIANUS var. FICKEISENIAE** (Backeb.) L. Benson
Syn: *Navajoa fickeisenii* Backeb.

Dark bluish-green globose plants to 3in long, 2in in diameter, covered with prominent wart-like tubercles. The areoles are yellowish, becoming gray, with straw-colored spines, five to seven radials 1/10in long, and one slightly curved central about 1in long. Flowers appear during the day in summer; yellow with a pale reddish center band on the petals; about ⅔in long, 1in across. Requires sun; permeable mineral, enriched compost; minimum temperature 45°F. *USA (Northern Arizona).*

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PEDIOCACTUS **SILERI** (Engelm.) L. Benson
Syn: *Utahia sileri* (Engelm.) Br. & R.

A somewhat oval plant up to 6in tall, 4¾in in diameter with about 12–14 spiraling ribs bearing prominent circular areoles. There are 11–15 white radial spines, up to ¾in long, and three to seven brownish-black centrals becoming almost white with age, about 1in long. Flowers are diurnal in summer, and are yellowish, 1in or a little more in diameter. A high-altitude plant, it requires bright light; porous mineral, humus-enriched compost, minimum temperature 45°F. *USA (Northern Arizona, Utah).*

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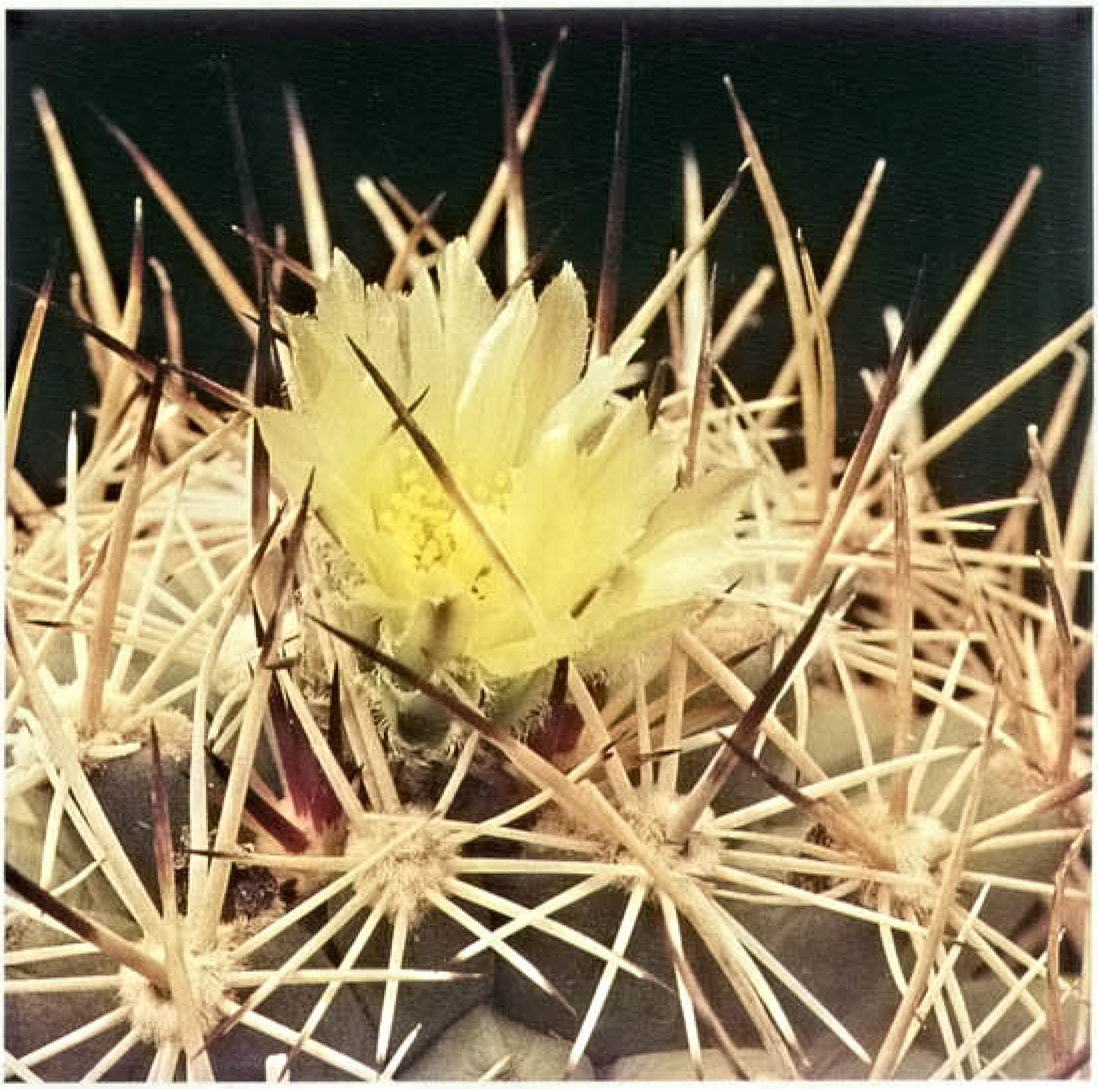

PEDIOCACTUS **PARADINEI** B. W. Benson
Syn: *Pilocanthus paradinei* (B. W. Benson) B. W. Benson & Backeb.

A solitary plant with greenish-gray globular stems 1–2in high, 2½–3¼in across. It has 12–15 ribs with wart-like tubercles bearing small circular areoles with hair-like white spines, about 20 radials, and four to six centrals, 1½–3in long. The plant is day flowering, in summer, with cream-colored flowers with a faint pinkish stripe and up to 1in across. Requires careful watering; bright light; porous enriched compost; minimum temperature 45°F. *USA (Navajoan Desert, altitude 5,741ft).*

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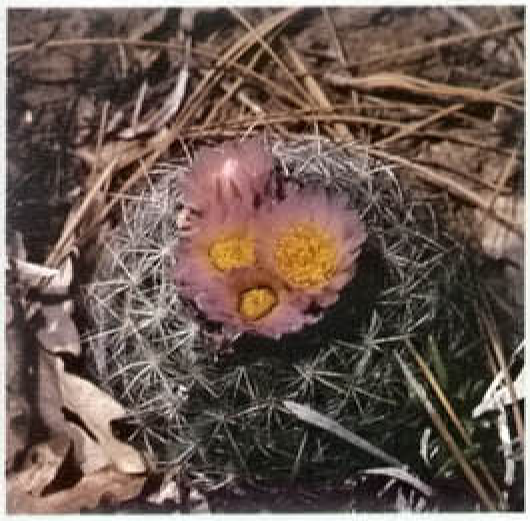
PEDIOCACTUS



PEDIOCACTUS **SIMPSONII** (Engelm.) Br. & R.
Syn: *Echinocactus simpsonii* Engelm.

Up to over 8in tall, 6in in diameter, the plant has 12 spiraling ribs, with tubercles bearing whitish areoles. These carry 15–25 whitish radial spines ½–¾in long and five to ten brown centrals to 1in long. Flowers are pinkish rose, up to 1in long, and are day flowering, in summer. Careful culture is required, and the plant is best grafted. Requires bright light; if on its own roots use permeable mineral compost enriched with leaf mold; minimum temperature 45°F. *USA (High altitudes, Arizona).*

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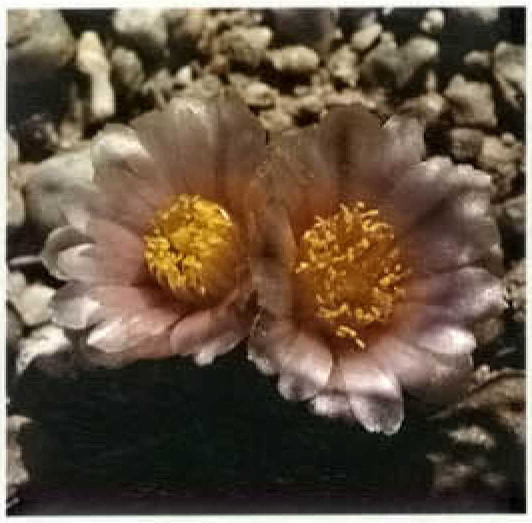

PEDIOCACTUS **WINKLERI** Heil

Usually solitary, sub-globose plants up to about 2¾in high, 1½in wide, with prominent tubercles ⅕–⅓in in diameter. The areoles are mainly woolly, bearing nine to fourteen white, somewhat pectinate radial spines up to ⅕in long, but no centrals. Flowering in summer, and diurnal, the flowers are up to ¾in long and 1in in diameter, peach-colored with a reddish-brown midstripe to the outer segments. Needs good light; normal cactus compost; minimum temperature 50°F. *USA (Utah).*

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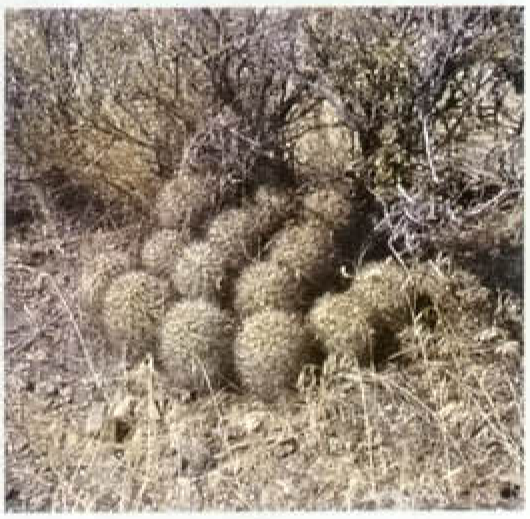

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PEDIOCACTUS **SIMPSONII var. ROBUSTIOR** Coult.
Syn: *Pediocactus robustior* (Coult.) Arp

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Very similar to the species, but occasionally clustering. It differs principally in the flower colour, which is pale yellow or white. Requirements are similar to those of the species. *USA (North Central Oregon).*

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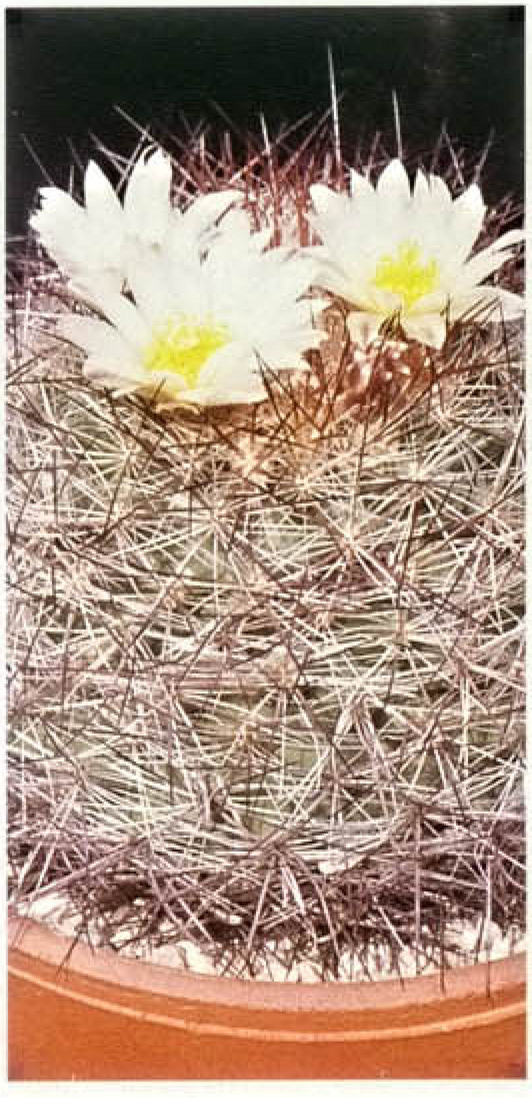
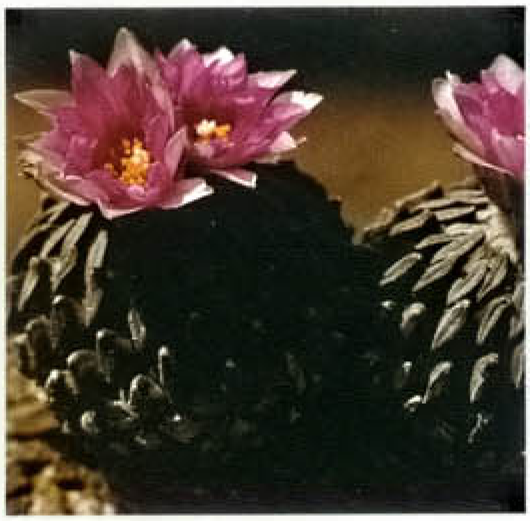


PELECYPHORA



PELECYPHORA **ASELLIFORMIS** Ehrenb.

A small, somewhat globular plant 2–4in high, ¾–2in in diameter, covered with grayish-green, spirally arranged tubercles which are flat and laterally compressed. The long, narrow areoles are at the tips of the tubercles and have numerous minute spines arranged like a comb. Flowers appear in summer in the crown of the plant during the day; they are reddish violet, 1–1½in across. Requires full sun; an enriched, permeable mineral compost; minimum temperature 55°F. *Mexico (San Luis Potosi).*

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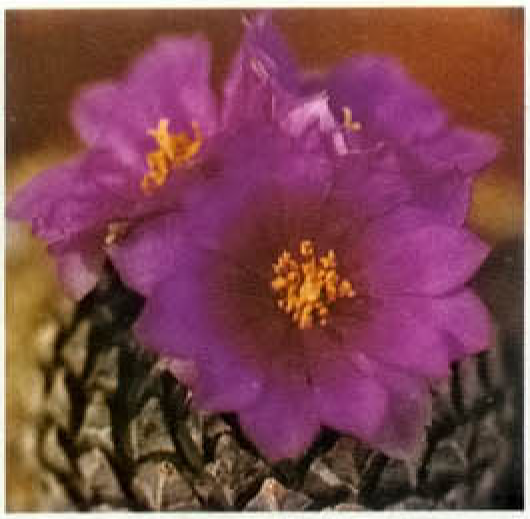

PELECYPHORA **STROBILIFORMIS** (Werd.) Frič & Schelle
Syn: *Encephalocarpus strobiliformis* (Werd.) Berger

Probably better known under the original title. It is an almost globular, grayish-green plant, 1½–3in in diameter, and covered with numerous bract-like tubercles. Areoles on the inner side of the tubercles have minute spines and wool. Flowers are reddish violet, 1–1½in wide, opening in daytime in summer. Keep totally dry in winter. Requires sun; enriched permeable compost; minimum temperature 50°F. *Mexico (Tamaulipas).*

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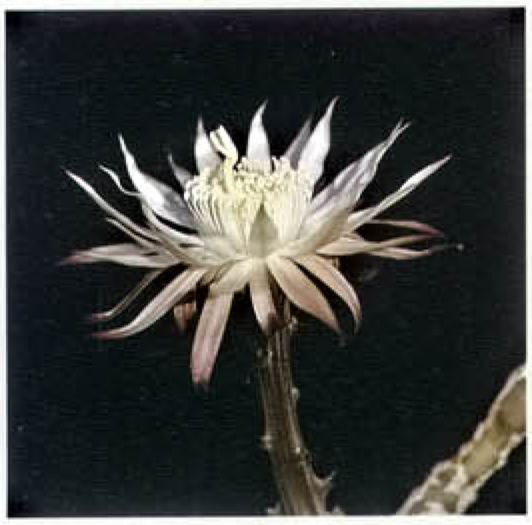
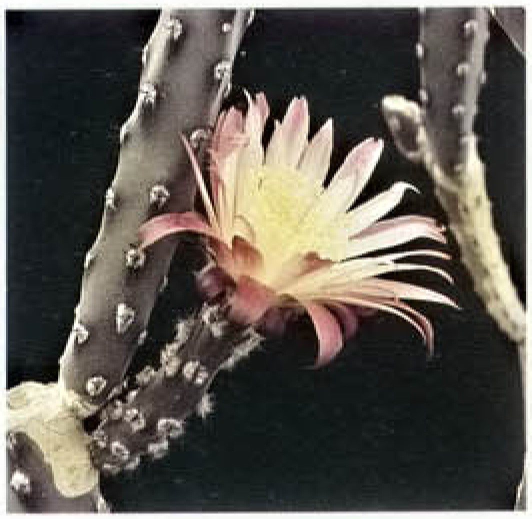
PENIOCEREUS



PENIOCEREUS **JOHNSTONII** (Berger) Br. & R.
Syn: *Cereus johnstonii* Berger

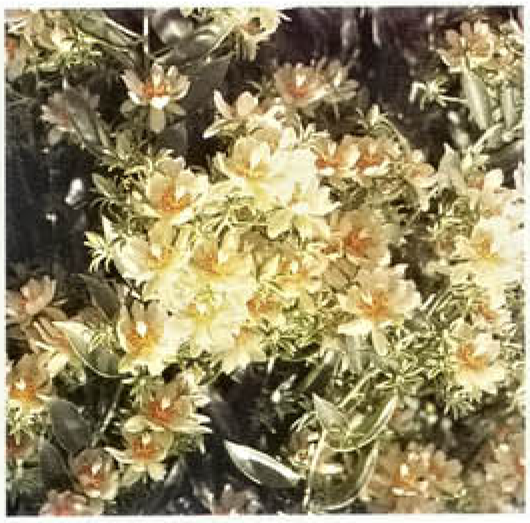
This species has a large, fleshy tuberous rootstock with grayish-green, elongated slender stems three to five-angled, and often reaching up to 10ft long. The areoles are very closely set with nine to twelve radial spines and one to three centrals, none exceeding ⅓in in length. Fragrant and nocturnal, flowers have a slender tube up to 6in long and white petals, appearing early summer. Requires a very bright position; normal cactus compost; minimum temperature 55°F. *Mexico (Baja).*



PENIOCEREUS **MARIANUS** (Gentry) Sanchez-Mejorada
Syn: *Wilcoxia mariana* Gentry

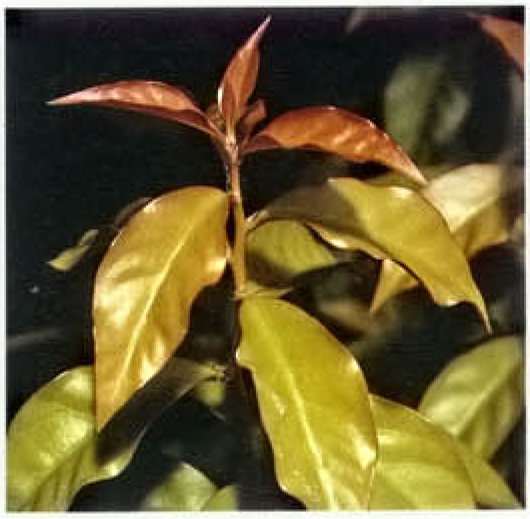
An erect or clambering species 3–20ft long. The stems and branches are four to five-angled and are set with whitish areoles bearing seven to ten blackish-brown radial spines and one similarly colored central. Flowering at night in summer, the flowers are 3¼–3½in long and tubular, the spreading outer petals white, tipped brownish-red, and inner petals white, about ¾in long. Needs warmth; good light; enriched porous cactus compost; minimum temperature 50°F. *Mexico (Sonora).*

PERESKIA



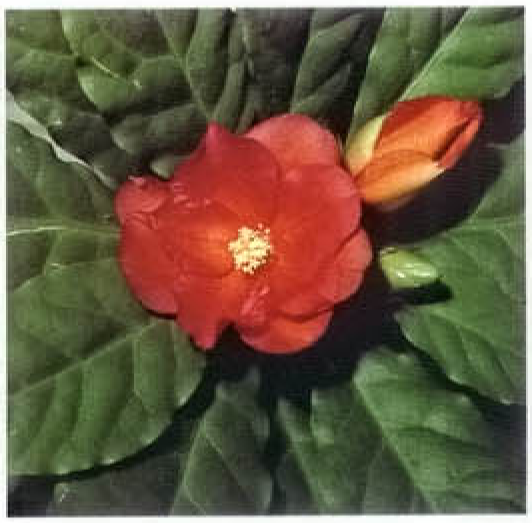
PERESKIA **ACULEATA** Miller

A climbing, trailing plant with stems 26–33ft in length to ½in thick and dark-green leaves up to 3½in long, 1½in wide. The areoles have one to three spines, but no glochids. Flowers appear in late summer and are diurnal. They are up to about 1¾in across and whitish yellow shading to pinkish at the base. Requires very bright light; normal cactus compost; minimum temperature 50°F. *USA (Florida), West Indies, Brazil, Paraguay.*



PERESKIA **ACULEATA var. GODSEFFIANA** (Sand.) Knuth
Syn: *Pereskia aculeata* cv. *Godseffiana*

This differs from the species in that the young leaves are all peach-colored, with the undersurface often slightly reddish. Cultivation requirements are the same as for the species.



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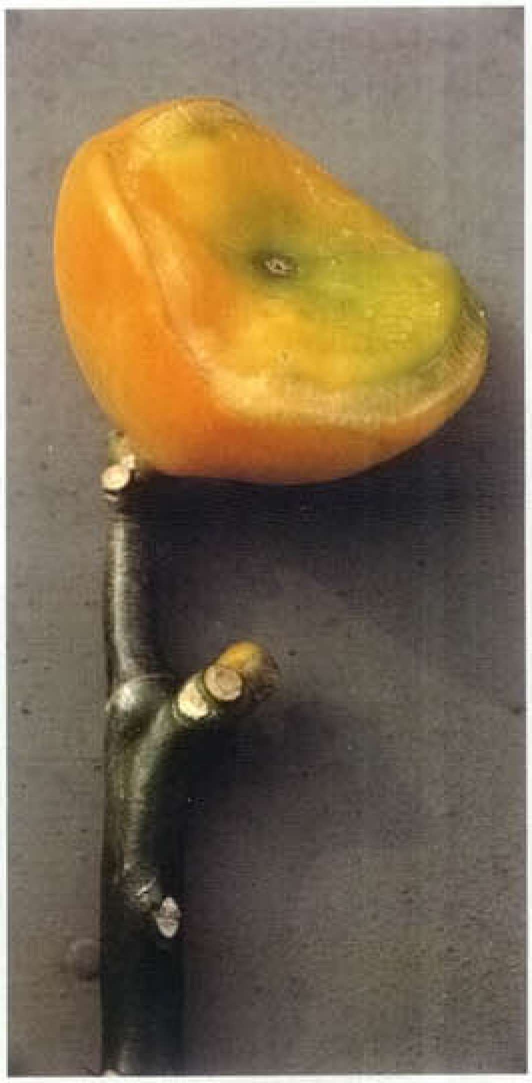

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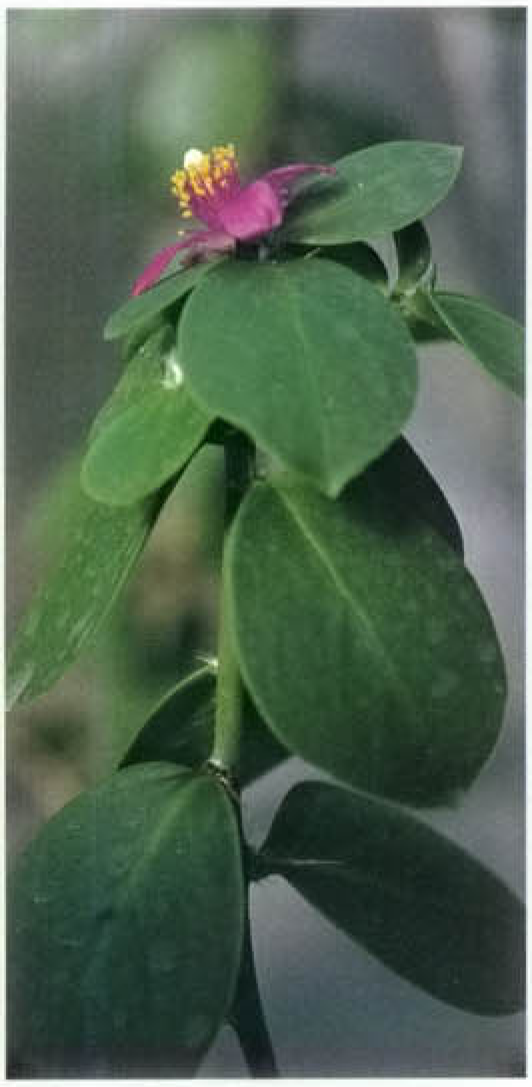
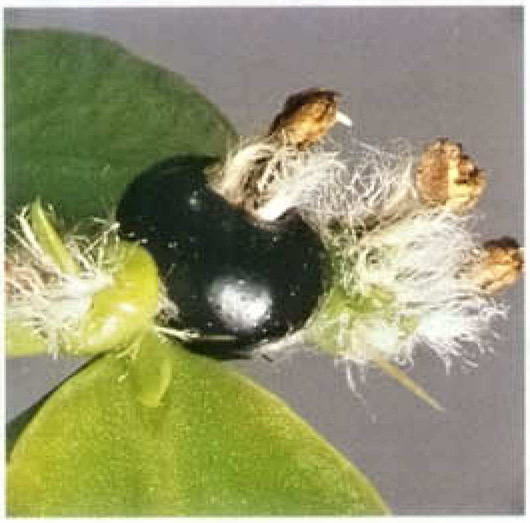
PERESKIA **BLEO** (Knuth) DC.
Syn: *Cactus bleo* Knuth; *Rhodocactus bleo* (HBK.) Knuth

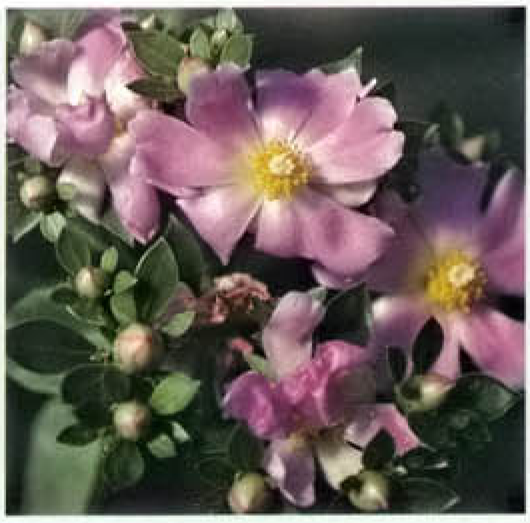
A shrub-like plant up to 23ft high, with many branches, these initially red becoming green. Leaves are bright green, up to 8in long, 2in wide, and there are five to six spines to each areole, varying in length. Flowering in summer, and diurnal, the pinkish-red flowers are grouped two to four together in clusters, and are about 1½in across. Needs bright light; normal cactus compost; minimum temperature 64°F. The pale yellow fruits are also a feature of interest. *Colombia, Panama.*

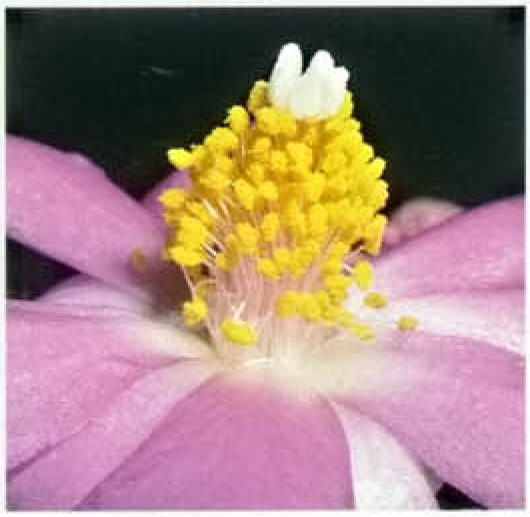


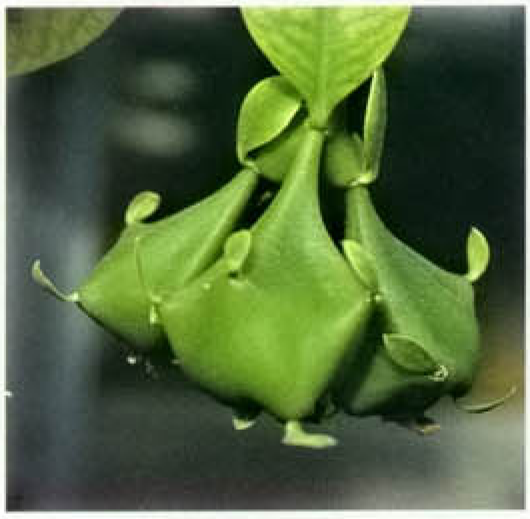
PERESKIA **DIAZ-ROMEROANA** Card.

A bushy plant to 4ft 3in high, with horizontally spreading branches. Leaves are dark green and elliptical, about 1in long, ½in broad. Grayish-white areoles bear about five spines at first, increasing to about 12, yellowish or whitish, and ⅕–¾in in length. Flowers are wine red, about ½in long, and appear by day, in summer. There has also been discovered a broader leafed form, otherwise similar in other respects. The small brownish-reddish fruits are only ⅕in in diameter. Requires bright light; normal cactus compost; minimum temperature 55°F. *Bolivia (Cochabamba).*





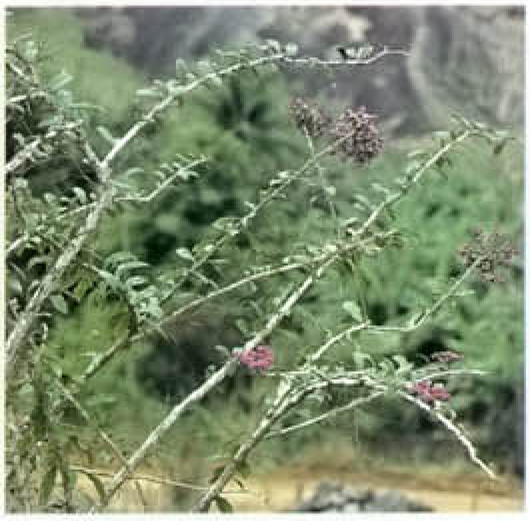




PERESKIA **GRANDIFOLIA** Haw. **var. GRANDIFOLIA**

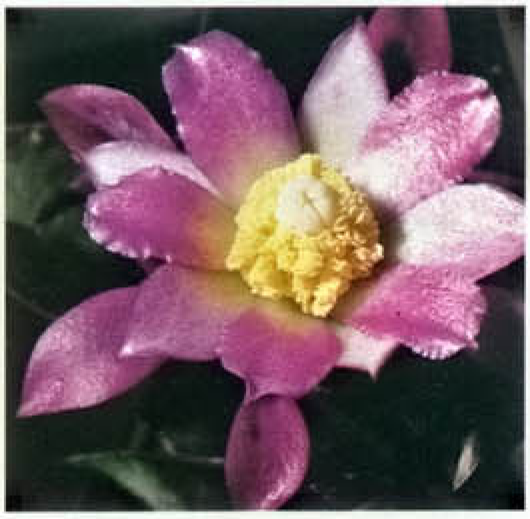
Syn: *Rhodocactus grandifolius* (Haw.) Knuth; *Pereskia grandiflorus* hort.

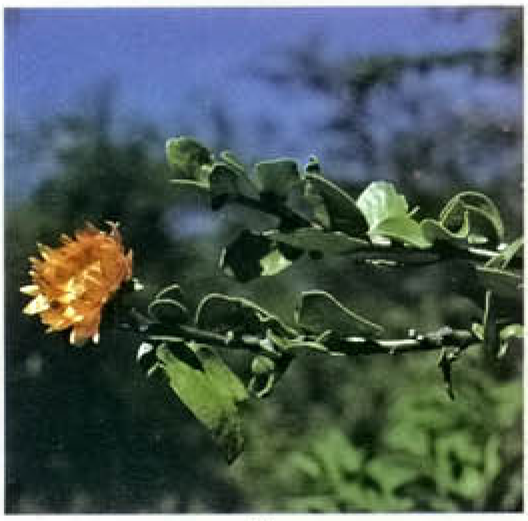
An erect, shrubby species 6½–15ft high with thick spiny stems. Green fleshy leaves, 6–8in long, 1–1½in broad. The areoles develop one or two blackish spines up to about 2in in length. The flowers are borne in clusters, about 1½in in diameter. The details of the flower are especially fascinating, and so are the small, green pear-shaped fruits. Day flowering in summer, needs a very bright position; normal cactus compost; minimum temperature 55°F. *Brazil.*

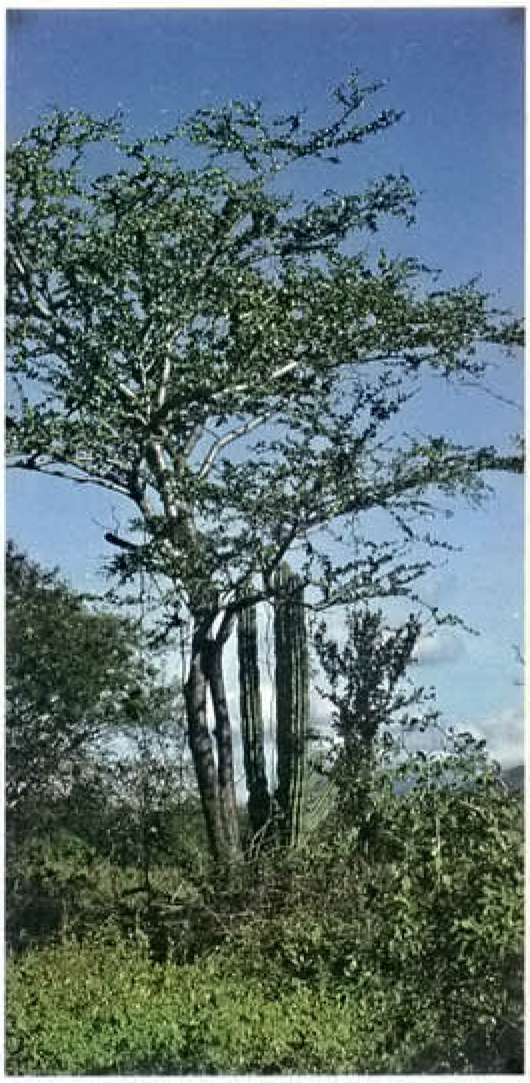


PERESKIA **GRANDIFOLIA** Haw. **var. VIOLACEA**

An unusual form of *P. grandifolia*, currently known under the Field Collecting No. HU226. It was discovered in Brazil in recent years and cultivated at the Botanic Gardens Berlin-Dahlem, Germany. Requirements are the same as for the species.

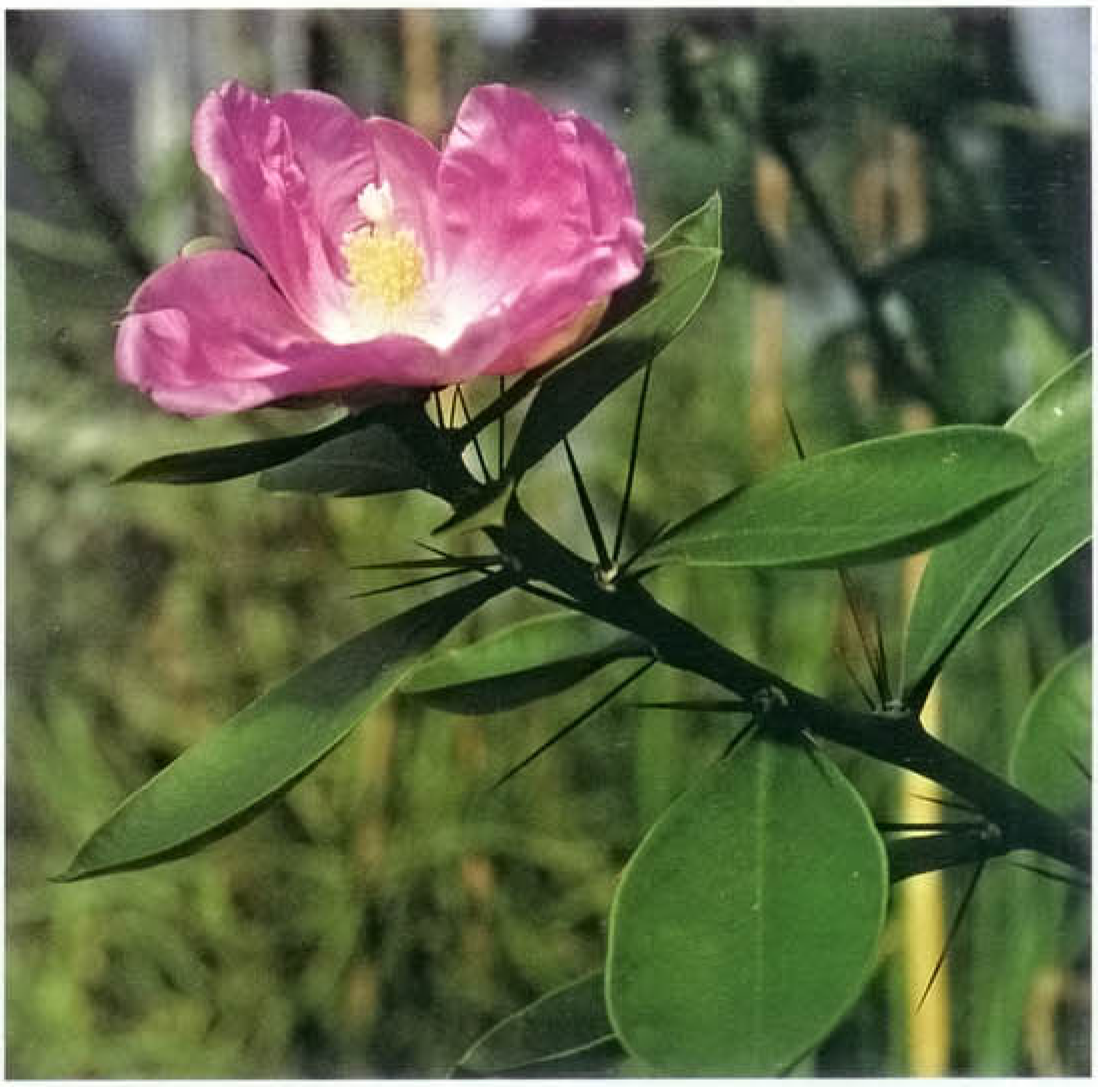


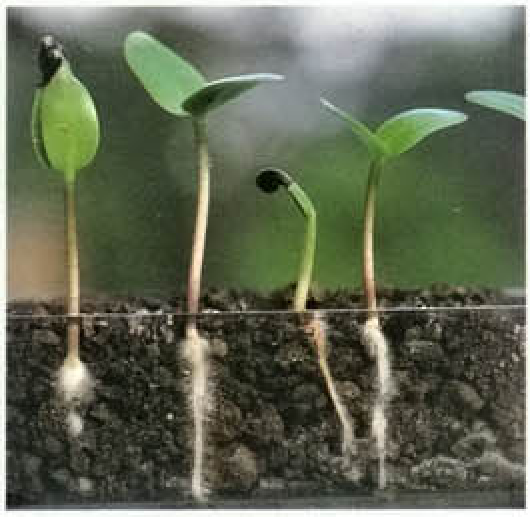




PERESKIA **LYCHNIDIFLORA** DC.
Syn: *Pereskia pititache* Karw.; *Rhodocactus lychnidiflorus* (DC.) Knuth; *Pereskiopsis autumnalis* Eichl.

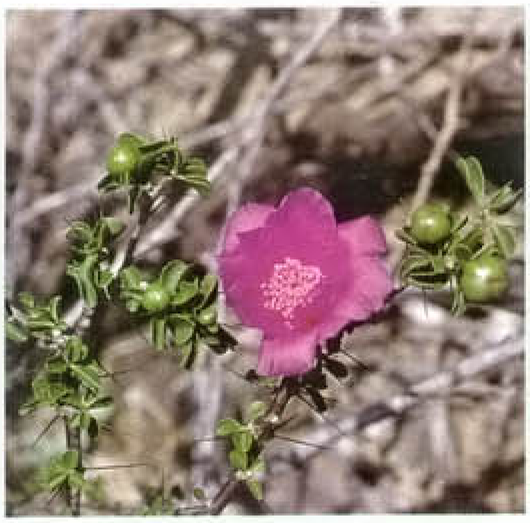
A tree-like plant reaching up to more than 29ft tall with many branches bearing pale-green leaves 1½–3in long, seen here growing amidst *Opuntia* species. The areoles are black with a few white hairs and one long spine ¾–2in in length. Flowers are yellowish orange, about 2½in in diameter, and appear by day, in summer. Requires full sun; normal cactus compost; minimum temperature 55°F. *Guatemala, Mexico.*





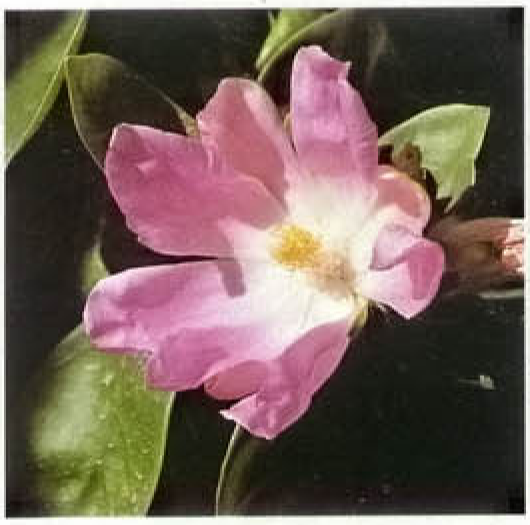
PERESKIA **NEMOROSA** Rojas Acosta
Syn: *Pereskia amapola* Weber; *Pereskia argentina* Weber

Closely allied to *P. sacharosa* with which it is often confused. It is a shrubby plant, often tree-like, 20–26ft high with smooth green branches. The more or less lance-shaped leaves are slightly fleshy and 3¼–4¾in long, and the grayish-white areoles have up to three or more spines, the longest to 2in. Flowers are produced in terminal clusters and are diurnal, blooming in summer, each flower about 3¼in wide, white or pink. Requires good light; normal cactus compost; minimum temperature 55°F. There is significant development in young seedlings: this shows two-week-old plantlets in cultivation. *Paraguay, Argentina.*



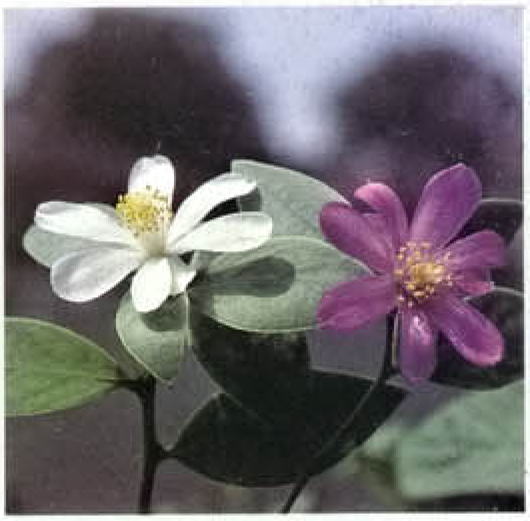
PERESKIA **PORTULACIFOLIA** (L.) DC.
Syn: *Rhodocactus portulacifolius* (L.) Knuth

A tree-like plant up to 20ft high. The branches are terete and very spiny; on younger growth the spines are usually solitary, but on older stems areoles have clusters of seven to nine, sometimes up to ¾in in length. The leaves are spatula-shaped and about ½in long. Pinkish-red flowers bloom in summer, and are diurnal; they are about 1in broad. Requires sun; slightly calcareous cactus compost; minimum temperature 64°F. *Dominican Republic, Haiti, Jamaica?*



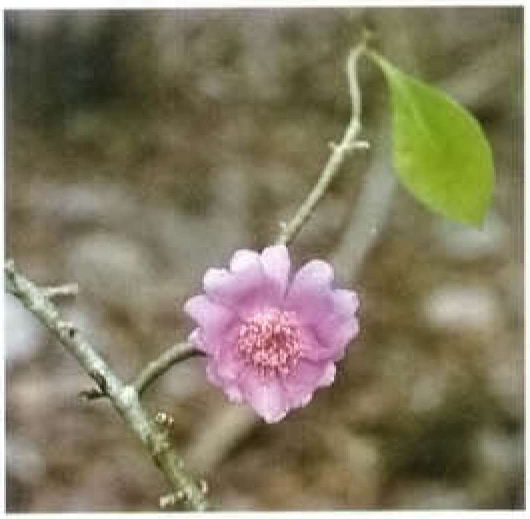
PERESKIA **SACHAROSA** Griseb.
Syn: *Rhodocactus sacharosa* (Griseb.) Backeb.; *Pereskia saipinensis* Card.

A tall, tree-like plant 20–26ft high with many erect branches. The dark-green leaves are lance-shaped, and 3¼–4¾in long. Areoles are grayish-white and bear usually one to three reddish-brown spines up to 2in in length, though older branches may have six or more. Flowering in summer, the rose-pink blooms are diurnal, 3–3⅕in wide, and are produced mostly in clusters. Requires slight shade; normal cactus compost; minimum temperature 55°F. *Paraguay, Argentina.*



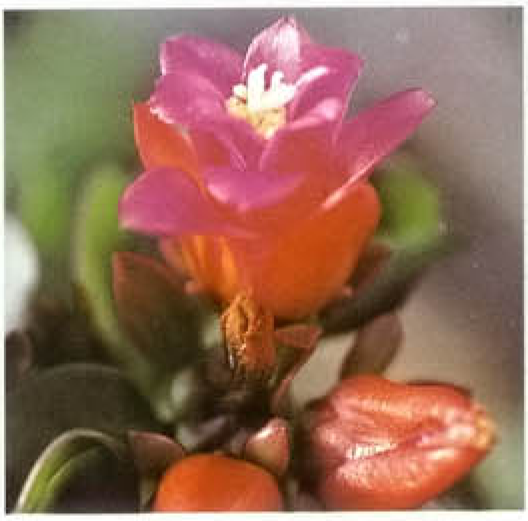
PERESKIA **WEBERIANA** K. Sch.

A shrubby species reaching 6½–10ft high, with many very slender branches only ⅒–⅕in thick. Leaves are ovate to elliptical 1in long, ¾in wide. The white woolly areoles bear one to six yellowish spines up to ¾in. White flowers, which are diurnal, are produced in clusters in summer, and are up to ½in long, ¾in wide; some blooms change color with age. Needs bright light; normal cactus compost; minimum temperature 55°F. *Bolivia.*



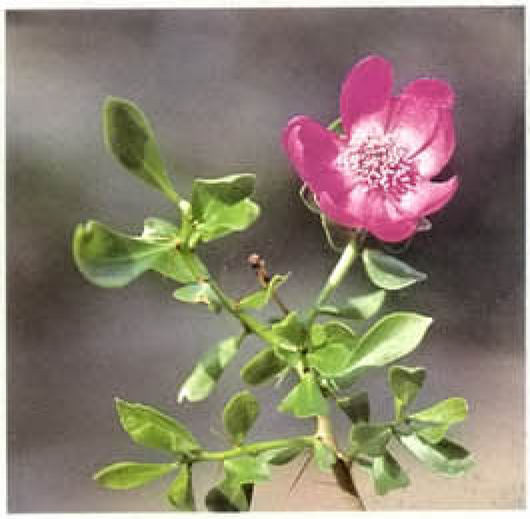
PERESKIA **QUISQUEYANA** Liogier

A shrub-like plant 10–13ft high with widely spreading branches in its habitat. The shiny green leaves are about ½in wide, varying from ½–1½in in length, and the spines are brownish, only two to three on young growth, but several developing later up to 2in long. Pink flowers up to about 2½in in diameter appear in mid-summer, and are diurnal. Requires slight shade; normal cactus compost; minimum temperature 64°F. *Dominican Republic.*



PERESKIA **STENANTHA** Ritter

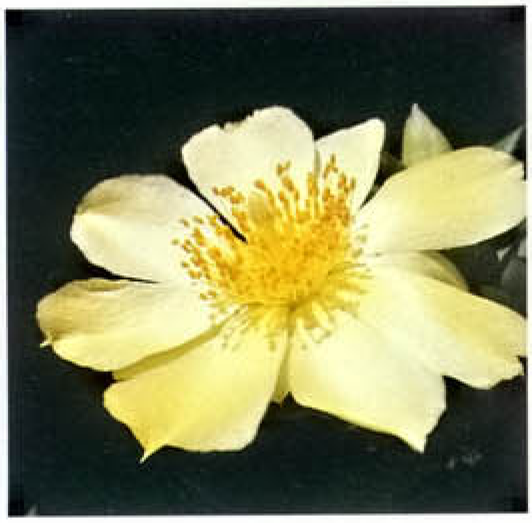
A large bushy plant 10–20ft high in its habitat, the main stem often up to 4in or more thick. The fleshy leaves are about 2½–4in long, 1½–3in wide, and the areoles are ⅒–⅕in wide. New growth has just one or two spines, with more developing later. These are brownish becoming whitish, and ¾–2½in in length. Flowers, about 1⅓in long, are nocturnal, appearing in summer. The petals are pink-purple, ¾–1in long and ¾–1in wide. Requires good light; normal cactus compost; minimum temperature 55°F. *Brazil (Bahia).*



PERESKIA **ZINNIIFLORA** DC.
Syn: *Rhodocactus zinniaeflorus* (DC.) Knuth

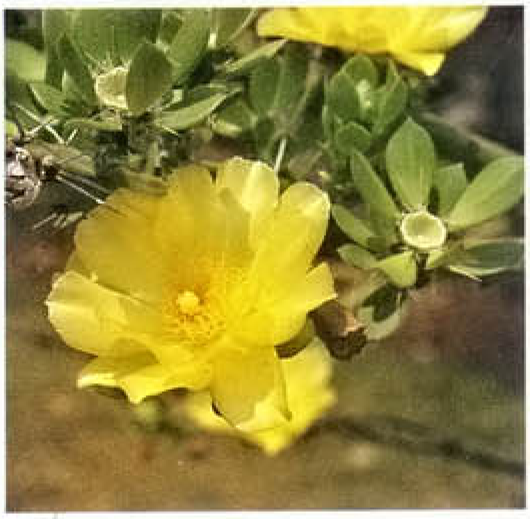
A large, shrubby species 4ft 9in or more high, often becoming tree-like. The oval to oblong leaves, ¾–1½in long, about ¾in broad, are cuneate at the base. Areoles are oval in shape, with one or two brownish spines on young branches, and three to five on older stems, up to ½in in length. Rose-red or purplish flowers, about 2in in diameter, are diurnal, in summer. Requires slight shade; normal cactus compost; minimum temperature 55°F. *Mexico.*

PERESKIOPSIS



PERESKIOPSIS **GATESII** Baxter

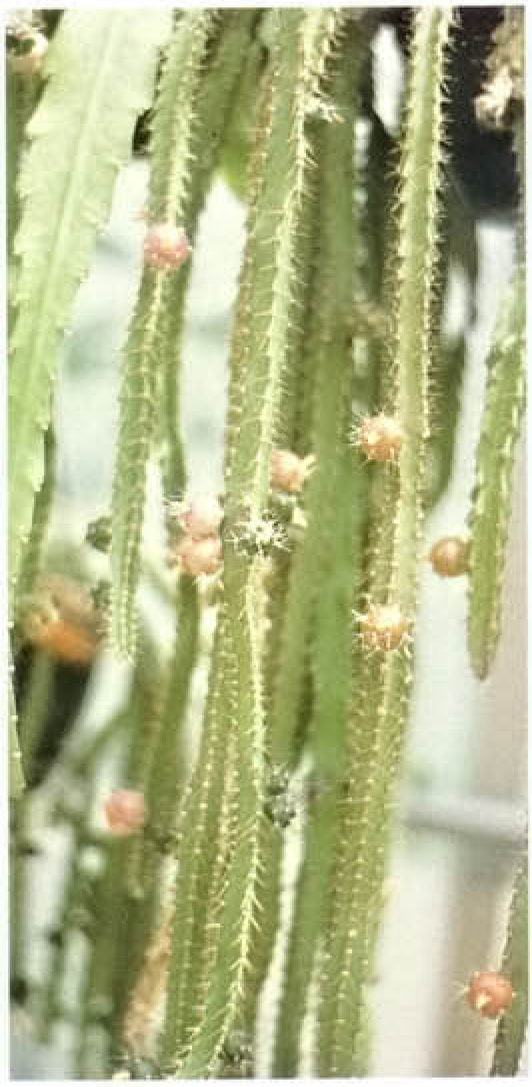
A somewhat trailing, shrub-like plant with pale-green stems and branches, and leaves almost oval in shape. The areoles bear one or many dull-brown or gray spines up to 2in in length, and the glochids are dark brown. The bright-yellow flowers are ¾–1in in diameter and appear by day, in summer. Requires slight shade; normal cactus compost; minimum temperature 55°F. *Mexico (Baja).*



PERESKIOPSIS **VELUTINA** Rose

A dark green, bushy plant reaching to over 3ft tall, slightly pubescent, and about ½in thick. The elliptical leaves are also velvety, ¾–2½in long, ⅔–1in wide in the middle. Areoles have whitish hairs, minute glochids, and whitish spines, often up to ½in long, and the flowers are bright yellow, ½–1in long and wide, with widely spreading petals; they appear by day in summer. Requires bright light; normal cactus compost; minimum temperature best at 55°F. *Mexico (Queretaro).*

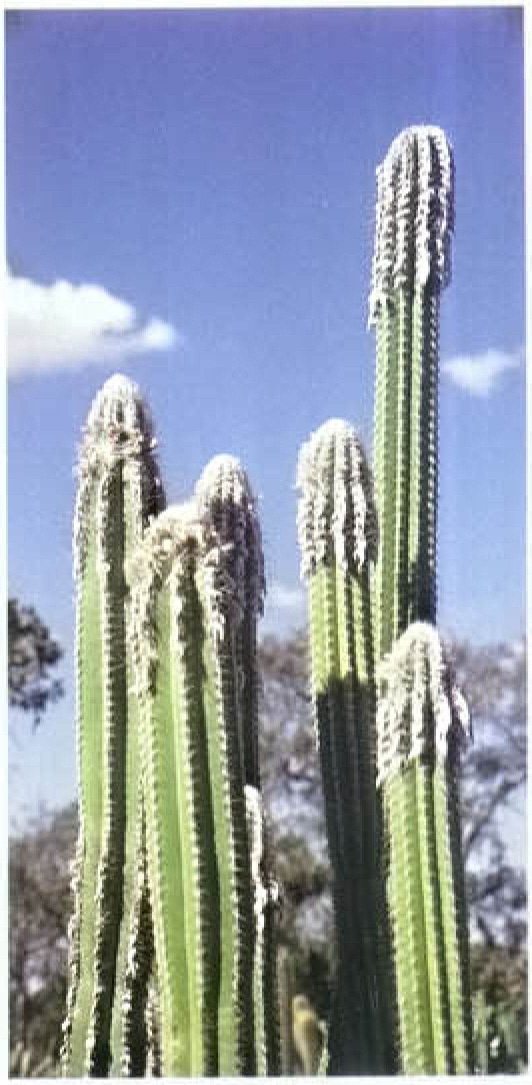
PFEIFFERA



PFEIFFERA **IANTHOTHELE** (Monv.) Weber Syn: *Lepismium ianthothele* (Monv.) Barthlott

An epiphyte on forest trees. Pendant in habit, the bright green stems are usually four-angled and 1–1½ft long, about ⅔in wide. Areoles bear six to seven yellowish spines about ⅕in long. Early summer flowering, in the day. Up to 1in long, they are bell-shaped, with yellow inner petals and pinkish-purple outer ones, followed by pinkish, fruits. Needs slight shade; normal cactus compost; minimum temperature 50°F. *Bolivia, Argentina.*

PILOSOCEREUS



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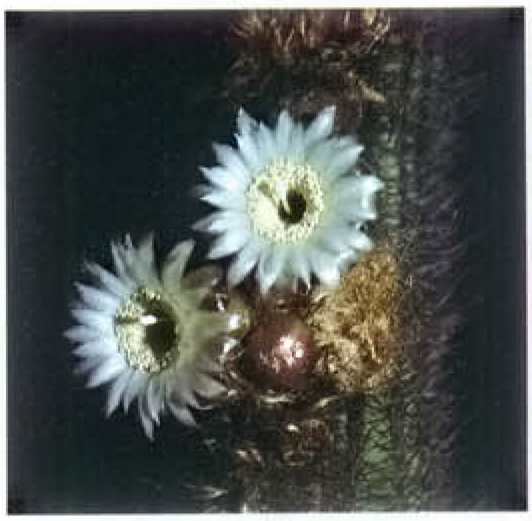

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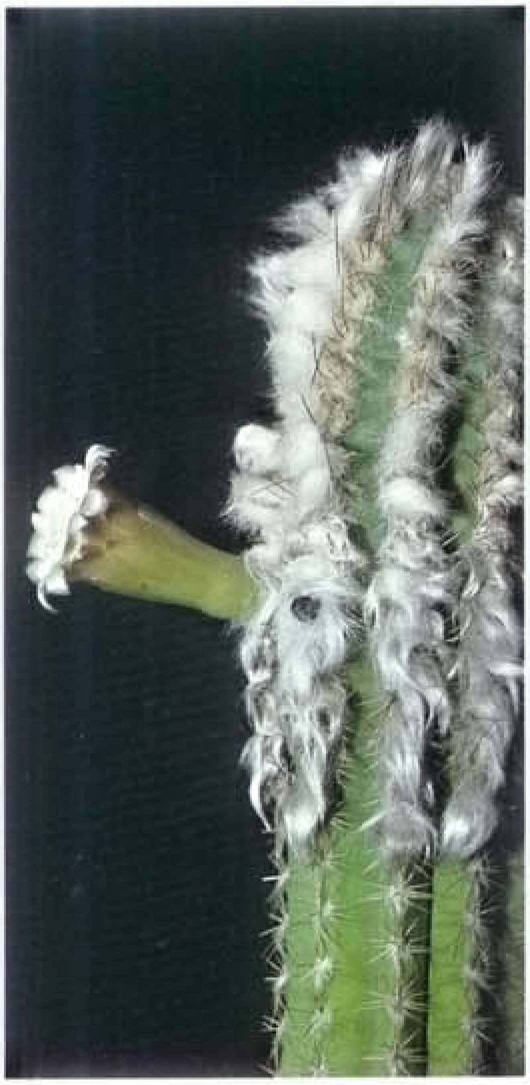
PILOSOCEREUS **ALBISUMMUS** Braun & Esteves

A tall, columnar species of grayish to clear green with about 10 straight ribs, fairly close-set areoles, and fine, pale-brownish spines. It has a cephalium of white wool and dark-brown bristles, through which appear silvery-white flowers which are night flowering, in summer. The cephalium becomes very pronounced as the flowering season approaches. Requires bright light; a calcareous cactus compost; minimum temperature 55°F. *Brazil (Minas Gerais).*



PILOSOCEREUS **AURILANATUS** Ritter

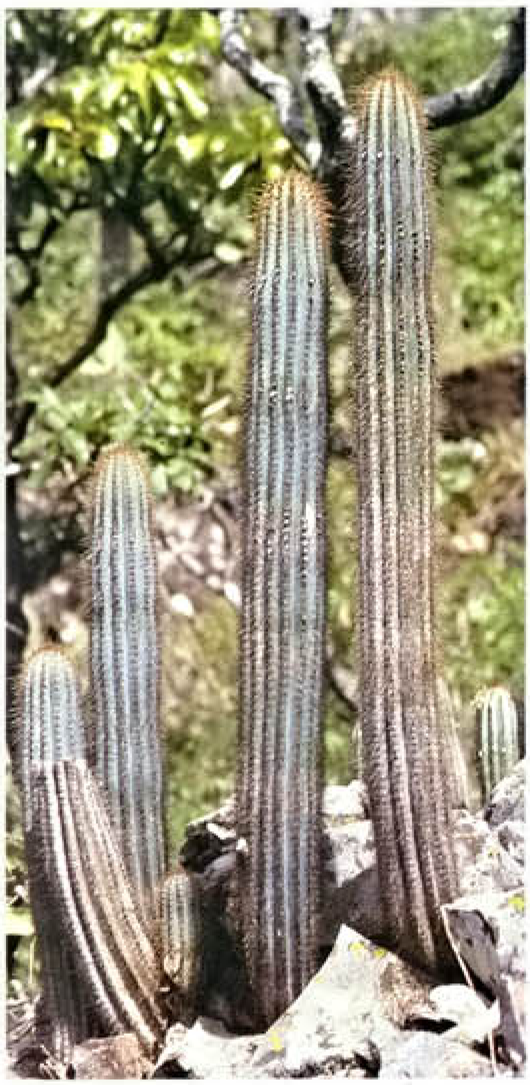
A columnar plant 3–6½ft tall with glaucous-green stems 2–3in thick. There are 14–18 ribs and large areoles bearing yellowish-brown spines, about 12 radials up to ⅔in long, and three to five centrals of similar length. The pseudocephalium is copiously covered with whitish yellow wool. White flowers appear at night, in summer, and are about 1½in long. Needs bright light, which is essential; normal cactus compost; minimum temperature 50°F. *Brazil (Minas Gerais).*

PILOSOCEREUS **BARBADENSIS** (Br. & R.) Byl. & Rowley

A tall, columnar plant, freely branching from the base. The stems are up to 20ft high, 2–4¾in thick, and have eight to nine ribs. Areoles bear about 10 yellowish-brown spines up to 1½in in length. Nocturnal flowering, in mid-summer, the flowers are a clear rose pink, 2½in long. Requires full sun; normal cactus compost; minimum temperature 64°F. *Barbados.*

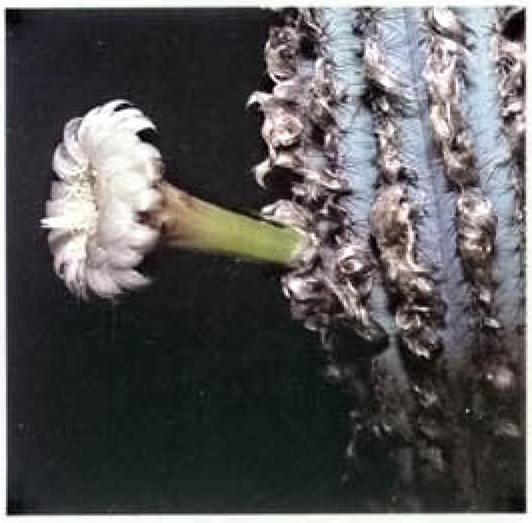
PILOSOCEREUS **BRAUNII** Esteves

This species was discovered by Leopold Horst (pictured) in the early 1970s and named for the explorer and botanist Pierre Braun. It is a grayish-blue, columnar plant up to about 6½ft high, grouping from the base, and has 14–18 ribs with brown areoles and spines. There is a brown bristly, lateral cephalium through which appear the night-flowering whitish, trumpet-shaped flowers in summer. Needs an airy, sunny position; normal cactus compost; minimum temperature 50°F. *Brazil (Western Bahia).*



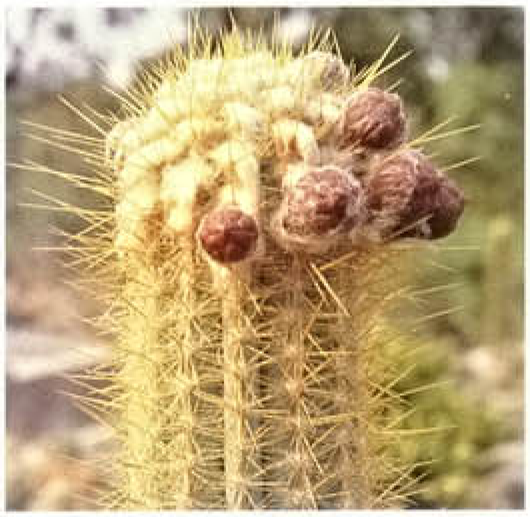
PILOSOCEREUS **CENEPEQUEI** Rizzini & Mattos

A blue or grayish-blue columnar plant, branching from the base. There are about 14 ribs with close-set areoles bearing short, brownish spines and long white hairs. White flowers appear laterally from the pseudocephalium, and are night flowering, in summer. Requires partial shade or out of direct sun; normal cactus compost; minimum temperature 50°F. *Brazil (Northeastern Minas Gerais).*



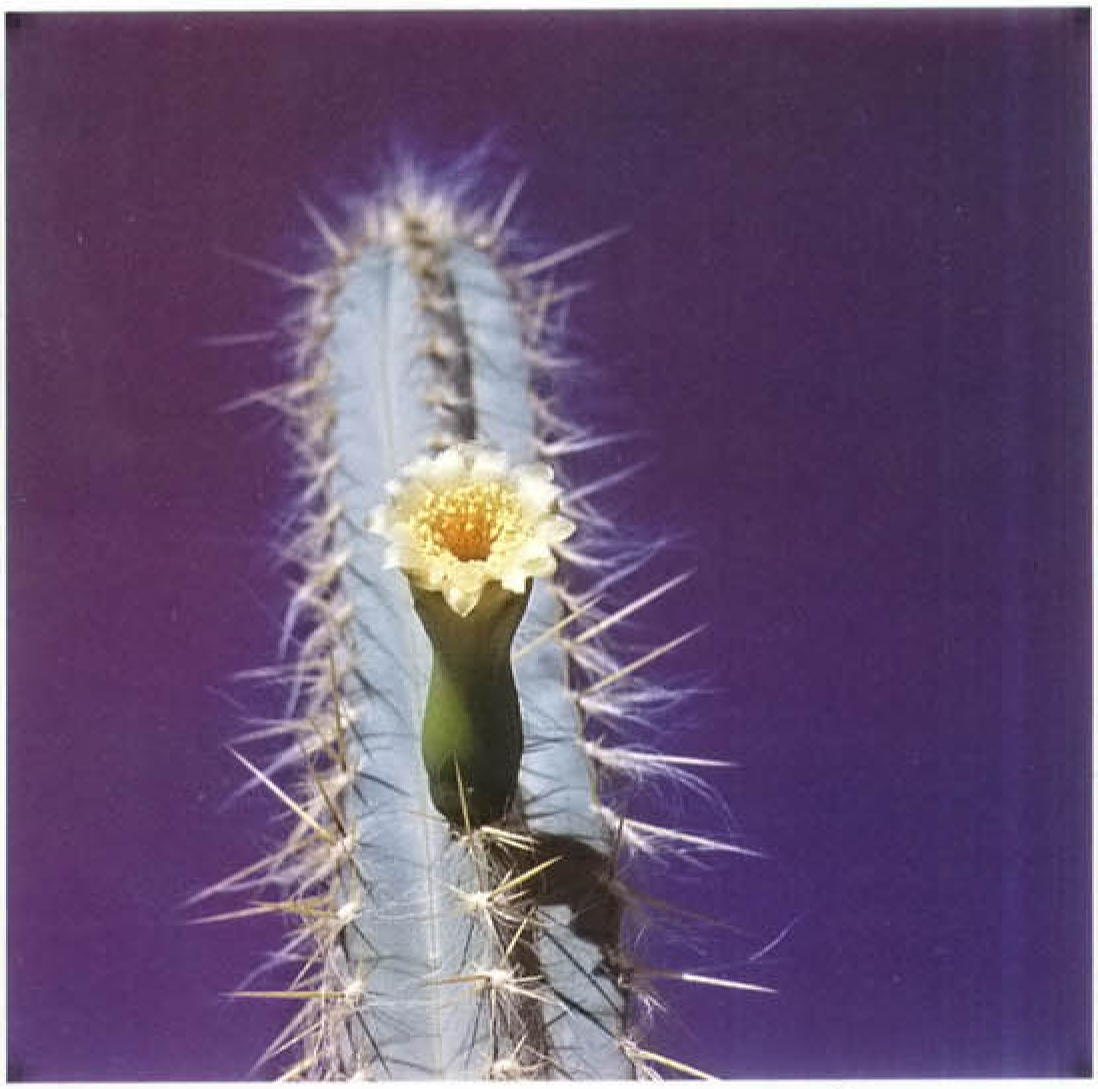
PILOSOCEREUS CINCINNOPETALUS Braun & Esteves

Recorded as being the only species of this genus growing in the region. It was discovered by Esteves in the early 1970s, but remained unnamed until recently. It is a blue-stemmed columnar plant with 10–12 ribs and areoles bearing dark spines and wool, and a terminal cephalium of long white woolly hairs. Flowers are borne laterally; these are white, more or less funnel-shaped, and night flowering in summer. Requires a bright position; normal cactus compost; minimum temperature 55°F. *Brazil (Southwestern Goias).*



PILOSOCEREUS CRISTALINENSIS Braun & Esteves

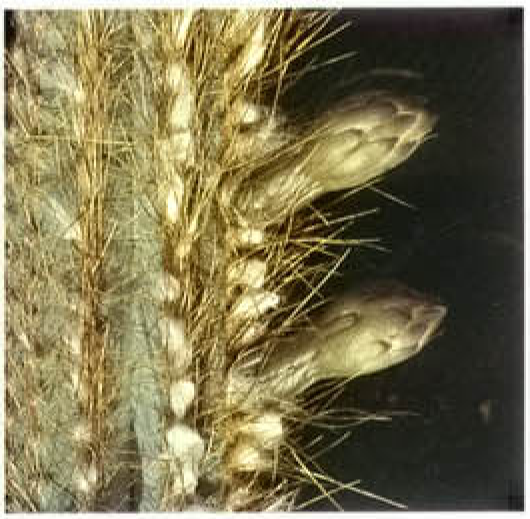
Named on account of its habitat – Cristalina, a locality within Goias. It is a dark-grayish or dull-green columnar plant with about 14 deeply furrowed ribs. The grayish-white areoles bear many fine radial spines of pale brown and deeper-colored centrals. The cephalium terminal consists of dense wool and long yellowish-brown bristly spines. Reddish flower buds open at night, in summer. Requires a bright position; normal cactus compost; minimum temperature 55°F. *Brazil (Goias).*



PILOSOCEREUS GLAUCOCHROUS (Werd.) Byl. & Rowley

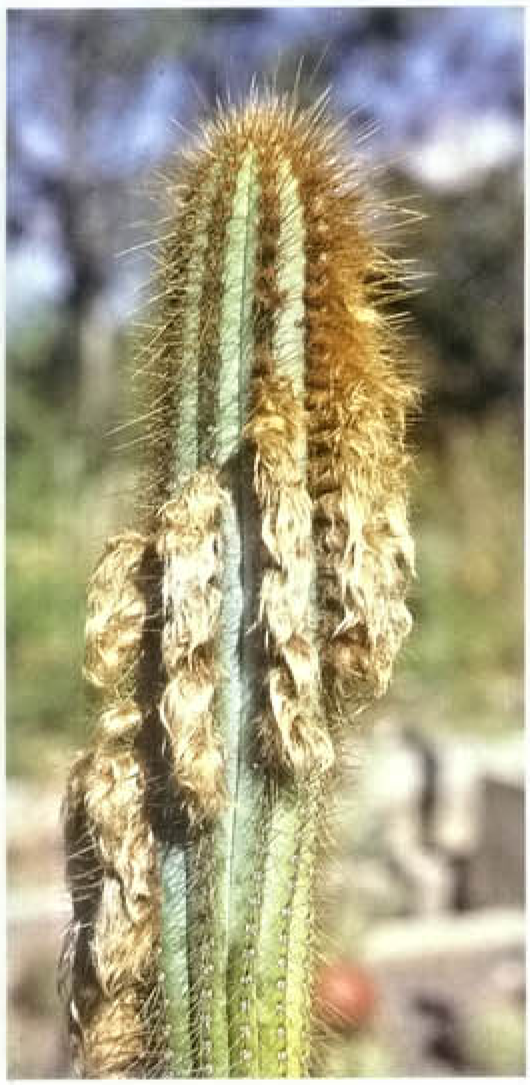
Syn: *Cephalocereus glaucochrous* (Werd.) Borg

An erect or semi-erect, bluish-green columnar species, sometimes branching from the base, and up to 13ft long, 2–3in thick. It has five to nine deep, notched ribs and white hairy areoles set about ⅔in apart. These bear nine to twelve pale brownish-yellow radial spines up to ¾in long and three to four similarly colored centrals up to 2in in length. Summer flowering in the daytime, the flowers are about 2¼in long, with pale pink or whitish inner petals and greenish-red outer segments. Requires full sun; an enriched mineral, open compost; minimum temperature 55°F. *Brazil (Bahia).*



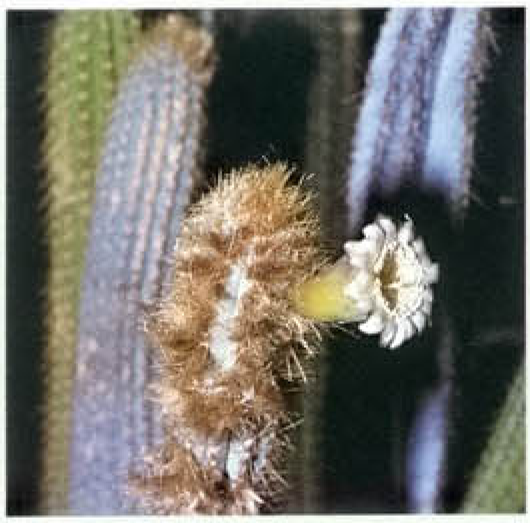
PILOSOCEREUS FLEXIBILISPINUS Braun & Esteves

A fascinating species from the newly created (in 1988) State of Tocantins and the first of the genus to be found there. It is a grayish-blue columnar plant with 10–12 straight and prominent ribs and brownish areoles. The spines are yellowish brown; both radials and centrals are particularly long and flexible, hence its specific title. The flowers are very small and a deep olive green to brownish color. Summer flowering, they are nocturnal. Requires slight shade; normal cactus compost; minimum temperature 55°F. *Brazil.*



PILOSOCEREUS **LINDAIANUS** Braun & Esteves

A bluish-green columnar plant, rarely exceeding 3ft in height. Although discovered nearly 20 years ago by Esteves, it has only recently been described and named after his wife. It has about 14 ribs with smallish areoles bearing brown, later more grayish spines. The cephalium is laterally developed, and the flowers are white, blooming at night, in summer. Requires bright light; normal cactus compost; minimum temperature 50°F. The close-up picture shows the plant in cultivation. *Brazil.*



PILOSOCEREUS **LINDAIANUS var. GRACILIS**

Very similar to the species but with more slender, bluish stems, and 10–12 ribs. The pseudocephalium is brownish and produces very pale pinkish-white flowers. It is night flowering, in summer. Requirements are the same as for the species. *Brazil.*

PILOSOCEREUS **LUETZELBURGII** (Vaup.) Byles & Rowley

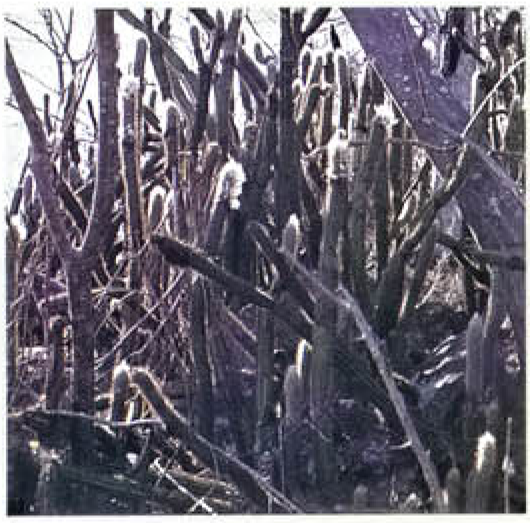
Originally known as *Cereus lutzelburgii* Vaup, this is a branching, columnar plant to 3ft high. Arising from the base, the dark green branches have whitish wool and yellowish-brown spines. There are 13–16 ribs with white woolly and hairy areoles up to ¾in long. Spines are yellowish to gray, of which 15–18 are radials to ⅔in long, and four to five are centrals to 1in. The flowers, 2in long, are olive green with white inner petals and are night flowering, in summer. Requires bright light; normal cactus compost; minimum temperature 50°F. *Brazil (Bahia).*

PILOSOCEREUS **MAGNIFICUS** (Buin. & Bred.) Ritter
Syn: *Pseudopilosocereus magnificus* Buin. & Bred.

A columnar plant 6½–10ft tall, with bluish stems 3–3¼in thick, branching from the base. It has five to seven ribs with whitish areoles with pale to brownish-yellow spines, 10–14 radials ⅓–½in long, and six to eight centrals up to ¾in. The flowers are whitish, up to 2¼in long, 1in across, and are night flowering, in mid-summer. Requires a sunny position; normal cactus compost; minimum temperature 50°F. *Brazil (Minas Gerais).*

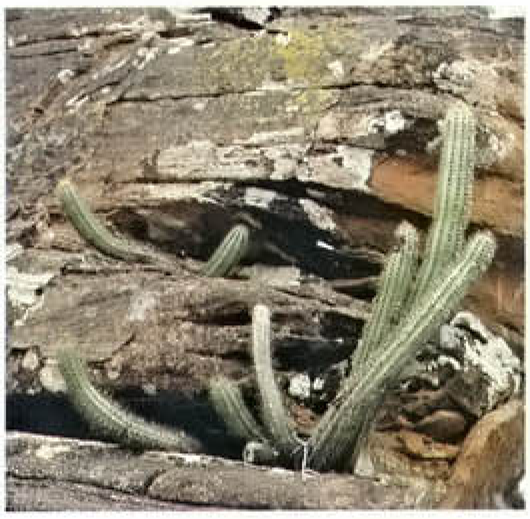
PILOSOCEREUS **NOBILIS** (Haw.) Byl. & Rowley

Pale green columnar plants 13–20ft high, 1–3¼in thick, branching from the base to form thick clusters. The stems have five to seven prominent rounded ribs with yellowish areoles set about ¾in apart, which have a few yellowish hairs. Of the yellowish-brown spines, there are about nine radials ¾–1in long, and one to six centrals 1½in or more in length. Flowering in mid-summer, the plant is nocturnal, with reddish-pink flowers about 2in long, 1½in across. Needs sun; normal cactus compost; minimum temperature 64°F. *West Indies (Windward Islands).*



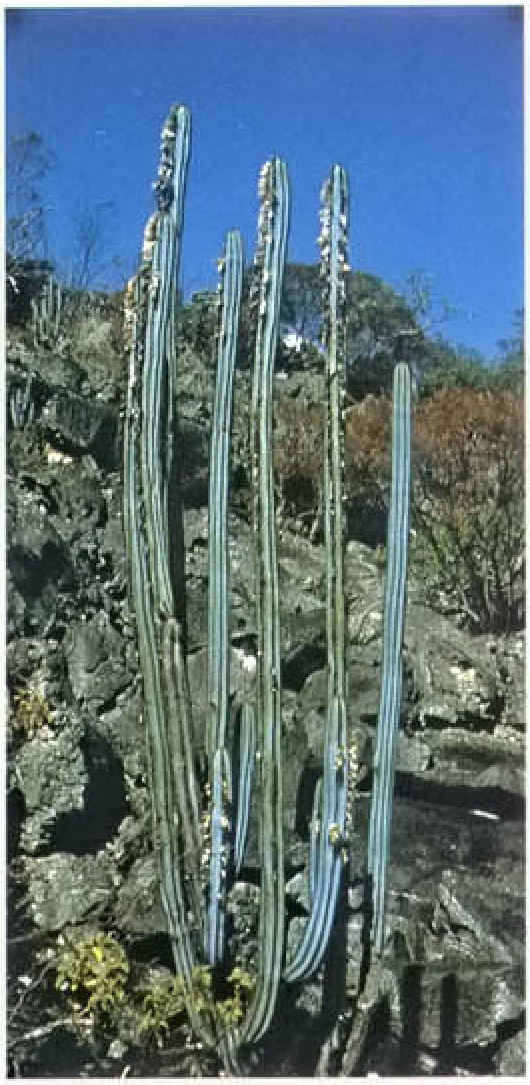
PILOSOCEREUS **PURPUSII** (Br. & R.) Byl. & Rowley

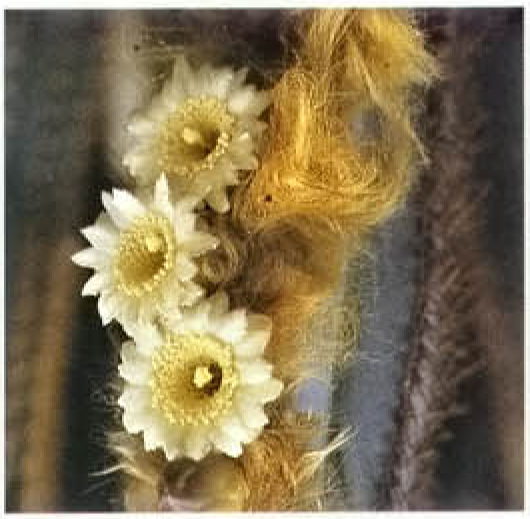
A bright green columnar plant, branching from the base, 1–1½in thick and often up to 10ft in length. It has 12 ribs with closely set whitish areoles with long silky hairs. The spines are yellowish, becoming gray with age, and up to 1in long. Flowers appear through the terminal white hairy cephalium, and are nocturnal in mid-summer; they are pale pinkish rose with white edges, and about 3in long. Requires a sunny position; normal cactus compost; minimum temperature 50°F. Mexico (Sinaloa, Sonora).



PILOSOCEREUS **PUSILLIBACCATUS** Braun & Esteves

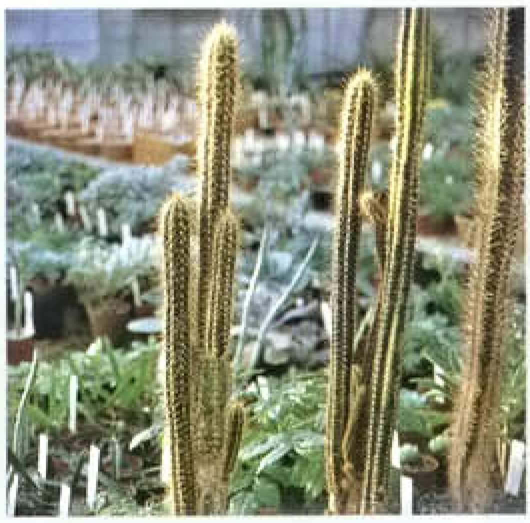
A grayish-green columnar plant up to a little over 3ft in height, 1¾in thick. It has nine to eleven ribs with round to oval areoles of grayish felt. The spines are brownish yellow, later becoming gray to dark brown: there are 12–16 radials varying from 1/10–¾in long, and one to three centrals up to ¾in in length. The flowers, nearly 2in long, have pale greenish-white inner petals, and cream or pale green outer segments. They are night flowering, in summer. Requires filtered light; normal cactus compost; minimum temperature 55°F. *Brazil (Maranhao).*





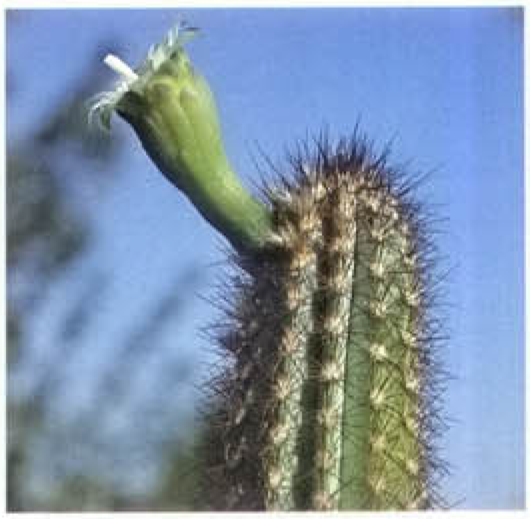
PILOSOCEREUS **ROSAE** Braun

This species is named for Rosa Uebelmann, the wife of the Swiss cactus collector. It is a tall, blue-stemmed columnar plant, branching at or near the base. There are nine to ten very straight ribs with fairly close-set areoles and an orange-yellow pseudocephalium along just one rib. Spines are pale brownish or yellowish brown, and the flowers are funnel-shaped with clear white inner petals and pale olive-green outer segments. They open at night, in summer. Requires full sun; normal cactus compost; minimum temperature 55°F. *Brazil (Central Minas Gerais).*



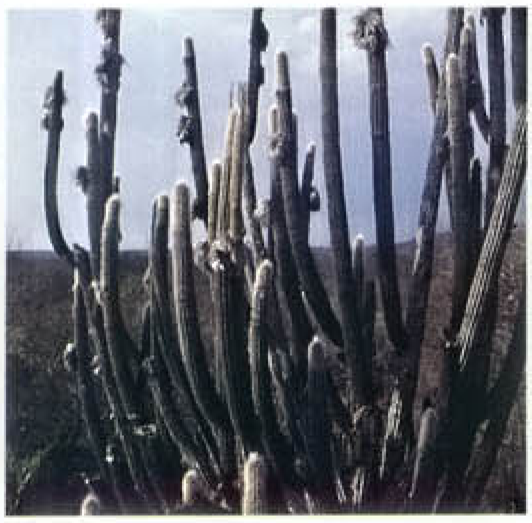
PILOSOCEREUS **ROYENII** (L.) Byl. & Rowley

A tree-like, columnar plant up to about 26ft high with bluish-green branches 3¼in or more thick. It has six to eleven ribs with brown areoles bearing whitish hairs and many yellow or reddish spines up to 2½in long but varying in length and color. Flowering by day, in summer, the flowers are about 2in long, white, and reddish externally. Needs full sun, which is essential; normal cactus compost; minimum temperature 65°F. *West Indies.*



PILOSOCEREUS **SCHOEBELII** Braun

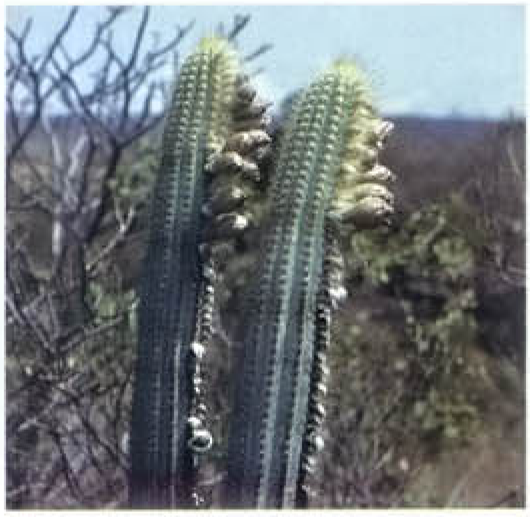
An erect columnar species up to 13ft tall, developing branches like a candelabra. The stems and branches are pale blue, 1½–3in thick, with 12 ribs and creamy-white areoles ⅕–¼in apart. Spines are pale brownish, later grayish black, 16–20 radial spines ⅕–⅖in long, and four centrals up to ⅔in. The pseudocephalium consists of a few tufts of whitish wool, and the whitish-green flowers are 2¼–2½in long, appearing at night, in summer. Needs full sun; normal cactus compost; minimum temperature 55°F. *Brazil (Northern Minas Gerais).*



PILOSOCEREUS **SUPERFLOCCOSUS** (Buin. & Bred.) Ritter

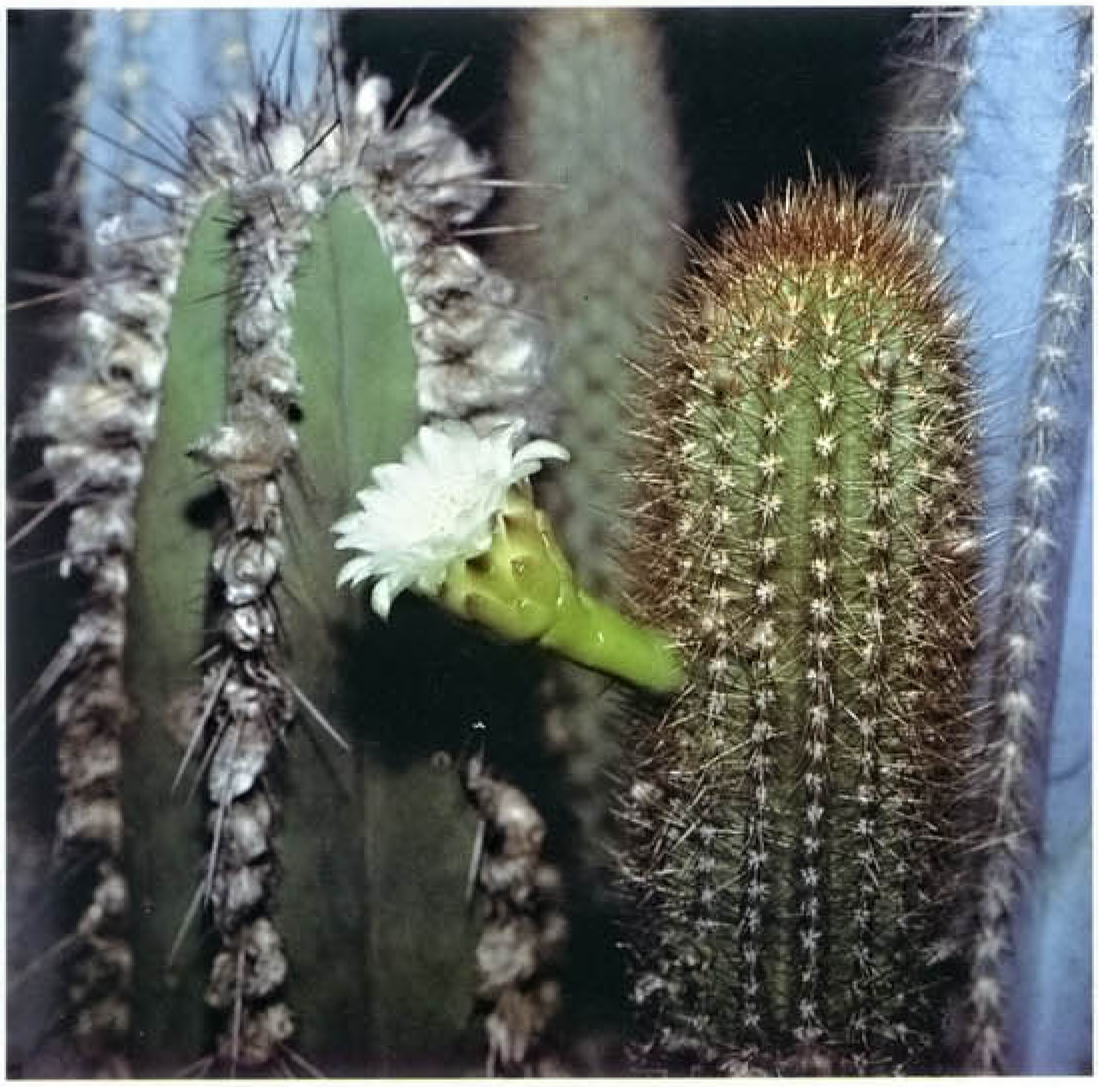
Syn: *Pseudopilosocereus superfloccosus* Buin. & Bred.

A tall plant to 13ft, with grayish-green stems about 2½in thick. It has nine to sixteen ribs with whitish-yellow woolly areoles bearing yellowish to pale-gray spines consisting of radials to ⅔in long, and seven centrals of similar length. Flowers from a white hairy cephalium. The 2in long white blooms are nocturnal, in mid-summer. Needs full sun; normal cactus compost; minimum temperature 55°F. *Brazil (Western Bahia).*



PILOSOCEREUS **SUPTHUTIANUS** Braun

A grayish-blue, shorter columnar species up to 4ft 9in high, sparsely branching from the base. Stems are about 2in thick with 10–12 yellowish ribs, and later, brown areoles bearing yellowish to grayish spines consisting of 22–26 radials and eight to ten centrals. The woolly pseudocephalium is lateral on a few ribs with hairs up to ⅔in long. The flowers, bell-shaped and 2–2¼in long, are pinkish white, often brownish red, and occur at night, in summer. Needs a bright position, which is essential; normal cactus compost; minimum temperature 55°F. *Brazil (Central Minas Gerais).*



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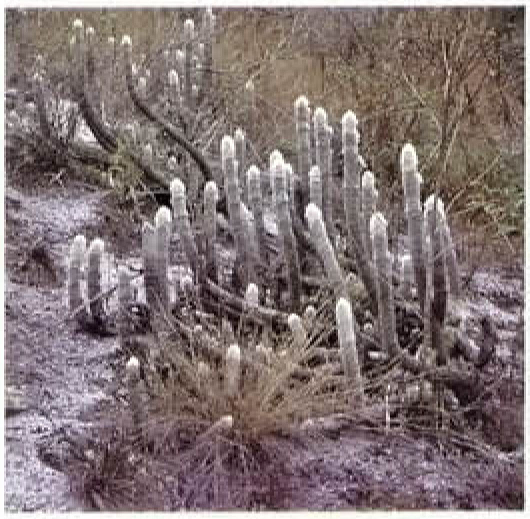
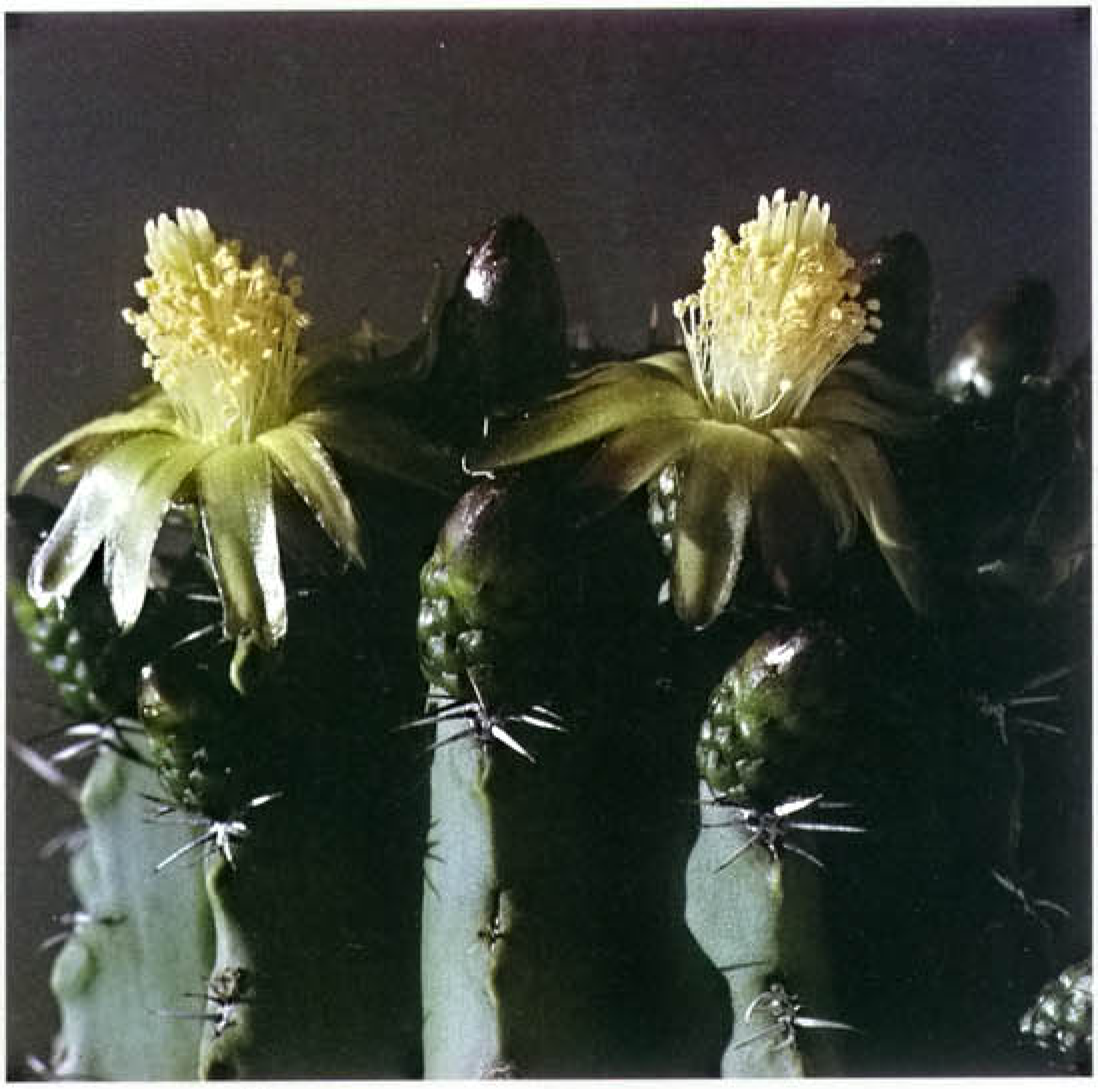
PILOSOCEREUS **VILABOENSIS** (Diers & Esteves) Braun

Named after the original name of the city Goias – Vila Boa. A dark green columnar species with about 15–16 ribs, whitish areoles, and yellow or brownish spines. The pseudocephalium is not much in evidence; the fairly long, partly tubular flower has an olive-green, smooth tube with pale reddish tips to the scales and pure white inner petals. The flowers appear at night, in mid-summer. Needs a bright position; normal cactus compost; minimum temperature 55°F. *Brazil (Goias).*



PILOSOCEREUS **WERDERMANNIANUS** (Buin. & Bred.) Ritter **var. DENSILANATUS** Ritter

Columnar plants with slender stems up to about 4½ft high, the bright-grayish stems branching from or near the base, and up to 2in thick. There are 13–17 ribs, covered with white hairs. The areoles bear eight to twelve radial spines ⅕–½in long, and four to eight centrals ⅕–1in in length. The white flowers, 1⅓–2in long, are nocturnal, in mid-summer. Requires sun; slightly calcareous cactus compost; minimum temperature 55°F. *Brazil (Minas Gerais).*



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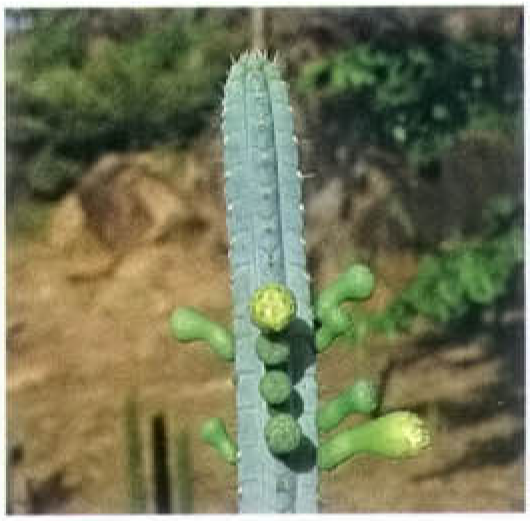
POLASKIA **CHICHIPE** (Goss.) Backeb.
Syn: *Lemaireocereus chichipe* (Goss.) Br. & R.

A columnar plant, branching from the base, 13–16ft high. The pale green stems are 2–3in thick, with seven to twelve acute ribs, ¾in deep, and areoles set about ⅔in apart. Spines are grayish, initially almost blackish brown; six to seven are radials to ½in long, and there is one central about ⅔in. Flowering by day in summer, the flowers are creamy white or greenish yellow with a reddish midstripe and about 1in long, 1½in across. Requires bright light; normal cactus compost; minimum temperature 55°F. *Mexico (Oaxaca, Puebla).*

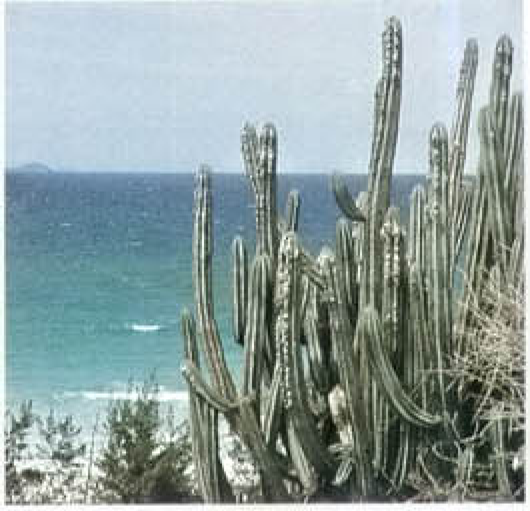
PSEUDOACANTHOCEREUS
BOREOMINARUM Rizzini & Mattos

The generic title is considered obsolete by certain authorities, and it is now referred to *Acanthocereus*. It is a sprawling, slender-stemmed plant with three to four-angled stems and branches about 1in thick. The areoles are brownish, set along the margins, with short pale brownish spines. Flowers have an elongated tube, 4¾–6in long, and are white, appearing at night, in summer. Requires a sunny position; normal cactus compost; minimum temperature 55°F. *Brazil (Northeastern Minas Gerais).*



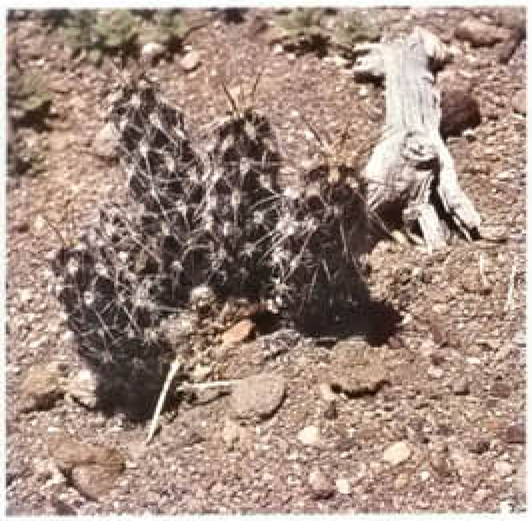
PSEUDOPILOSOCEREUS **AZUREUS** Buin. & Bred.
Syn: *Pilosocereus azureus* Ritter

Columnar plant 13–16ft high, grayish-blue branches, 3–3¼in thick. It has seven to ten ribs, with slightly crenate margins. "V"-shaped furrow above each areole bears yellowish-brown spines consisting of 12–16 small radials and six to nine centrals. Flowers, which are white, are cylindrical, and about 2in long. They are nocturnal, occurring in summer. Requires bright light; slightly calcareous cactus compost; minimum temperature 55°F. *Brazil.*



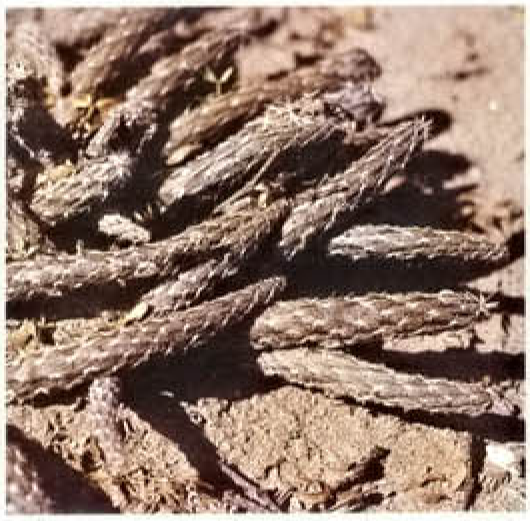
PSEUDOPILOSOCEREUS **ULEI** (K. Sch.) Buxb.
Syn: *Pilosocereus ulei* (K. Sch.) Byl. & Rowley

A columnar plant up to 23ft high in its habitat. The branches are bluish, about 4in wide with eight ribs. Large, woolly areoles with silvery hairs bear about 10 thin brown radial spines about ⅔in long and one or two darker brown centrals up to ¾in in length. Flowers appear from a lateral cephalium consisting of wool and hairs. Flowering at night, in summer, the flowers are white and 1½–2in long. Requires sun; normal cactus compost; minimum temperature 55°F. *Brazil (Cabo Frio).*



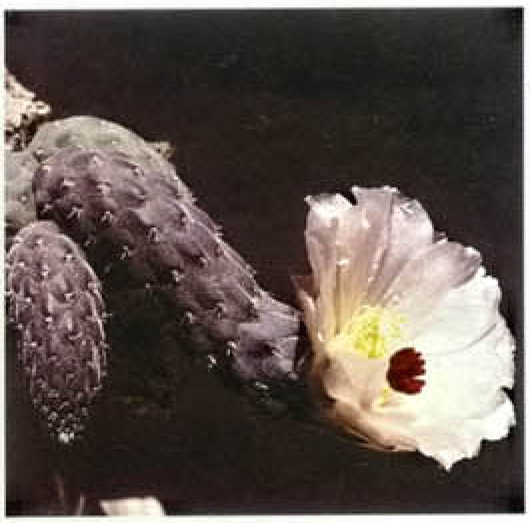
PTEROCACTUS **FISCHERI** Br. & R.

The plant is up to about 6in high, with green stems ½–¾in thick and more or less cylindrical in a series of joints set one above another. Spines arise from whitish areoles; about 12 are white radials to ¼in long and there are four brownish-yellow centrals ½–⅔in in length. Day flowering in late summer, the flowers arise from the tips of the stems – white, tubeless, and 1½in or more in diameter. Requires very careful watering because of its large tuberous rootstock; sun; slightly calcareous cactus compost; minimum temperature 50°F. *Argentina (Patagonia).*



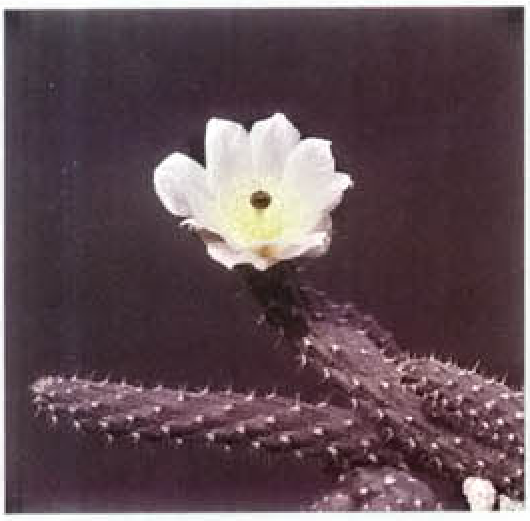
PTEROCACTUS **HICKENII** Br. & R.

A cylindrical-stemmed species with a tuberous rootstock. The grayish-brown or greenish-brown stems or joints are about ¾in thick, ¾–1in long, and are covered with stiff, pale-brownish spines ¾–1in long. The terminal flowers, about 1½in across, are yellowish with pink edges and are day flowering, in early summer. Needs full sun; normal cactus compost; minimum temperature 45°F. *Argentina (Mendoza).*



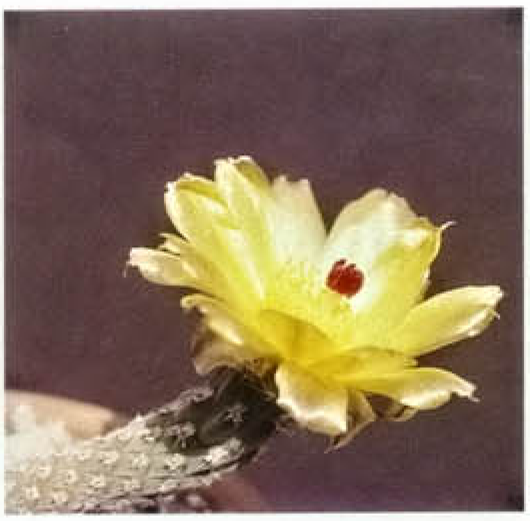
PTEROCACTUS **RETICULATUS** Kiesling

A clumping species arising from a tuberous rootstock with tubers about 8in long, 4in in diameter! The cylindrical, jointed stems are ¾–1in long, ½–¾in thick, and reddish gray with many very shallow "warts" below each areole; these bear one to three minute whitish spines. Flowers are yellow and about 1½in across. They appear by day, in early summer. Requires full sun; normal cactus compost; minimum temperature 50°F. *Argentina (San Juan).*



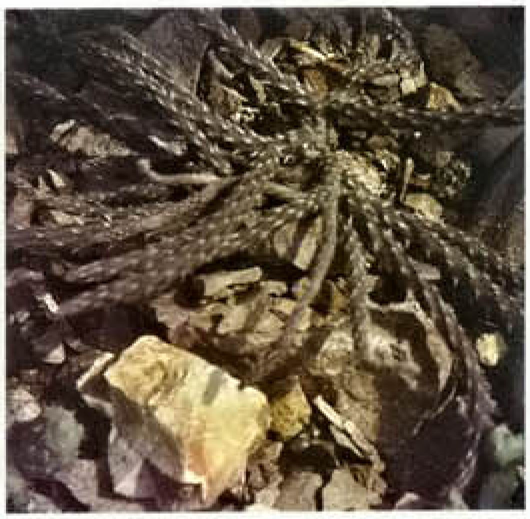
PTEROCACTUS **GONJIANII** Kiesling

A recently recorded species with a tuberous rootstock. The stems are jointed, cylindrical, brownish or reddish green in color, and 2–2½in long. Areoles are arranged regularly, almost spirally, around the joints and bear very small whitish spines. Flowers are pinkish white, about 1in across, and appear by day in early summer. Requires full sun; normal cactus compost; minimum temperature 50°F. *Argentina (San Juan).*



PTEROCACTUS **MEGLIOLII** Kiesling

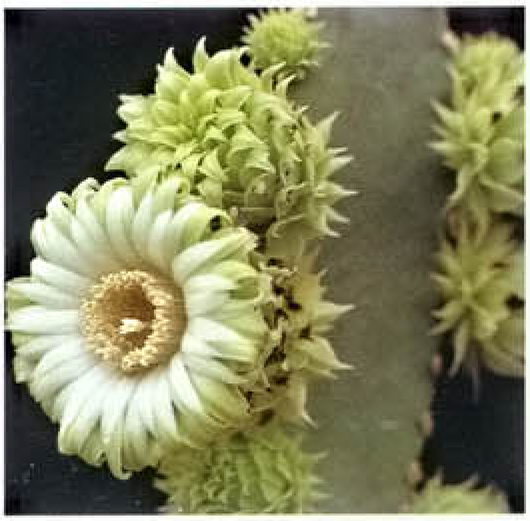
A tuberous-rooted plant, the tubers are about 6in long, 2–3¼in thick. It has cylindrical jointed stems up to 2in long and about ½in thick with regularly spaced, whitish areoles bearing minute spines. Flowers are yellow, 1–1½in across, flowering by day in early summer. Needs full sun; slightly calcareous cactus compost; minimum temperature 50°F. *Argentina (San Juan).*



PTEROCACTUS **TUBEROSUS** (Pfeiff.) Br. & R.

Syn: *Pterocactus kuntzei* K. Sch.

Plants have a large tuberous root which accounts for the specific title. Many branches arise from this rootstock; these are brownish green, cylindrical, about ½in thick, and of lengths varying from 2in–1ft 3in Small areoles occur at regular intervals bearing minute whitish hair-like spines. The flowers are yellow, ¾–1in across, and are day flowering, in summer. Requires full sun; normal cactus compost; minimum temperature 45°F. *Argentina (Mendoza).*



PTEROCEREUS **FOETIDUS** T. MacDoug. & Mir.

A dull-green, tree-like columnar plant up to about 26ft high. It has many angular branches created by three to four prominent ribs about 3in high. The grayish-white areoles have 10–20 widely spreading reddish spines about 2¾in long. Appearing by day in early summer, the flowers are borne laterally; they are about 3¾in long, greenish white, and open to about 1½in across. Requires bright light; an enriched cactus compost; minimum temperature 59°F. *Mexico (Chiapas).*

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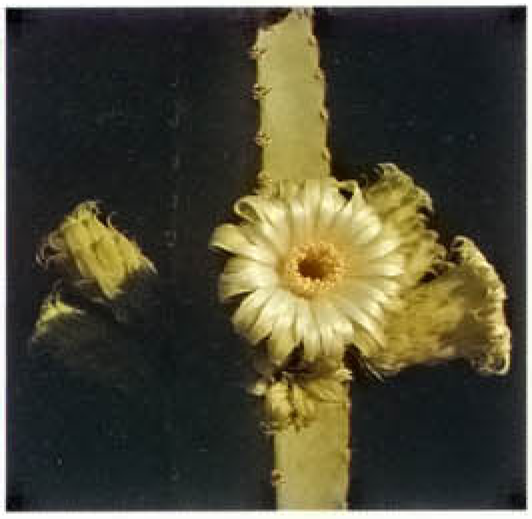

PTEROCEREUS **GAUMERI** (Br. & R.)
Syn: *Anisocereus gaumeri* (Br. & R.) Backeb.

A long slender plant, grayish blue-green in color, it is somewhat tree-like, to 23ft high in its habitat. The stems have three to four almost wing-like thin ribs and the yellowish-brown areoles bear three to six brown spines ½–1in in length. Flowers are borne laterally, appearing by day in early summer. They are about 2in long, and are yellowish white to yellowish green. Needs bright light, which is essential; an enriched mineral compost; minimum temperature 59°F. *Mexico (Yucatan).*

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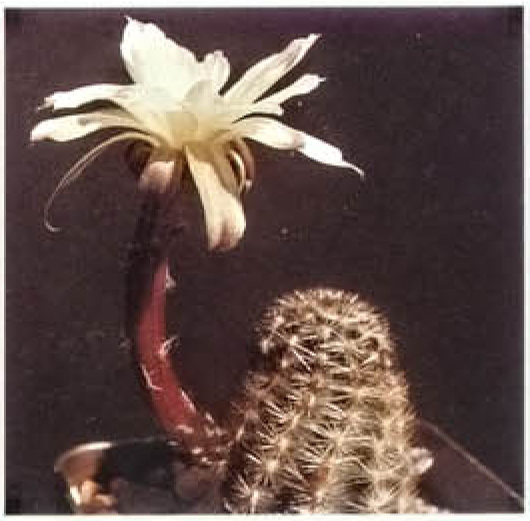

PYGMAEOCEREUS **AKERSII** Johnson

This is very closely allied to *P. bylesianus* and is undoubtedly just a form or variety of that species. It differs principally in having a longer central spine. Requirements are the same as for *P. bylesianus. Peru.*

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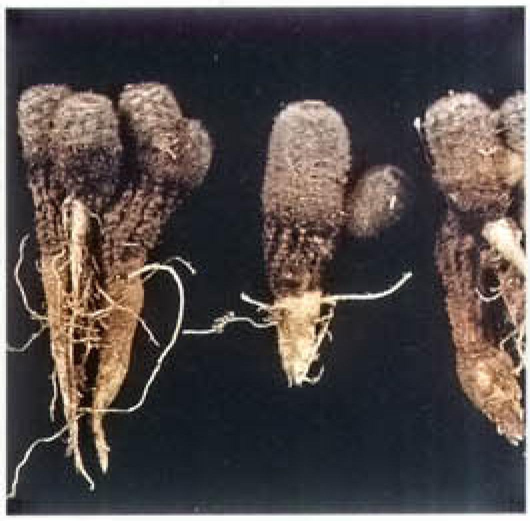

PYGMAEOCEREUS **BYLESIANUS** Andreae & Backeb.

Dark-green, semi-columnar or globular species, to 4in high. 12–14 ribs with round, areoles bearing fine, grayish radial spines and one or two longer centrals 1/10–1/5in long. Flowers at night in mid-summer, blooms 2½in long, with white inner petals and pale greenish outer ones. Requires careful cultivation because of the long fleshy taproot, as illustrated. Needs a bright position; a very porous enriched cactus compost; minimum temperature 50°F. *Southern Peru.*

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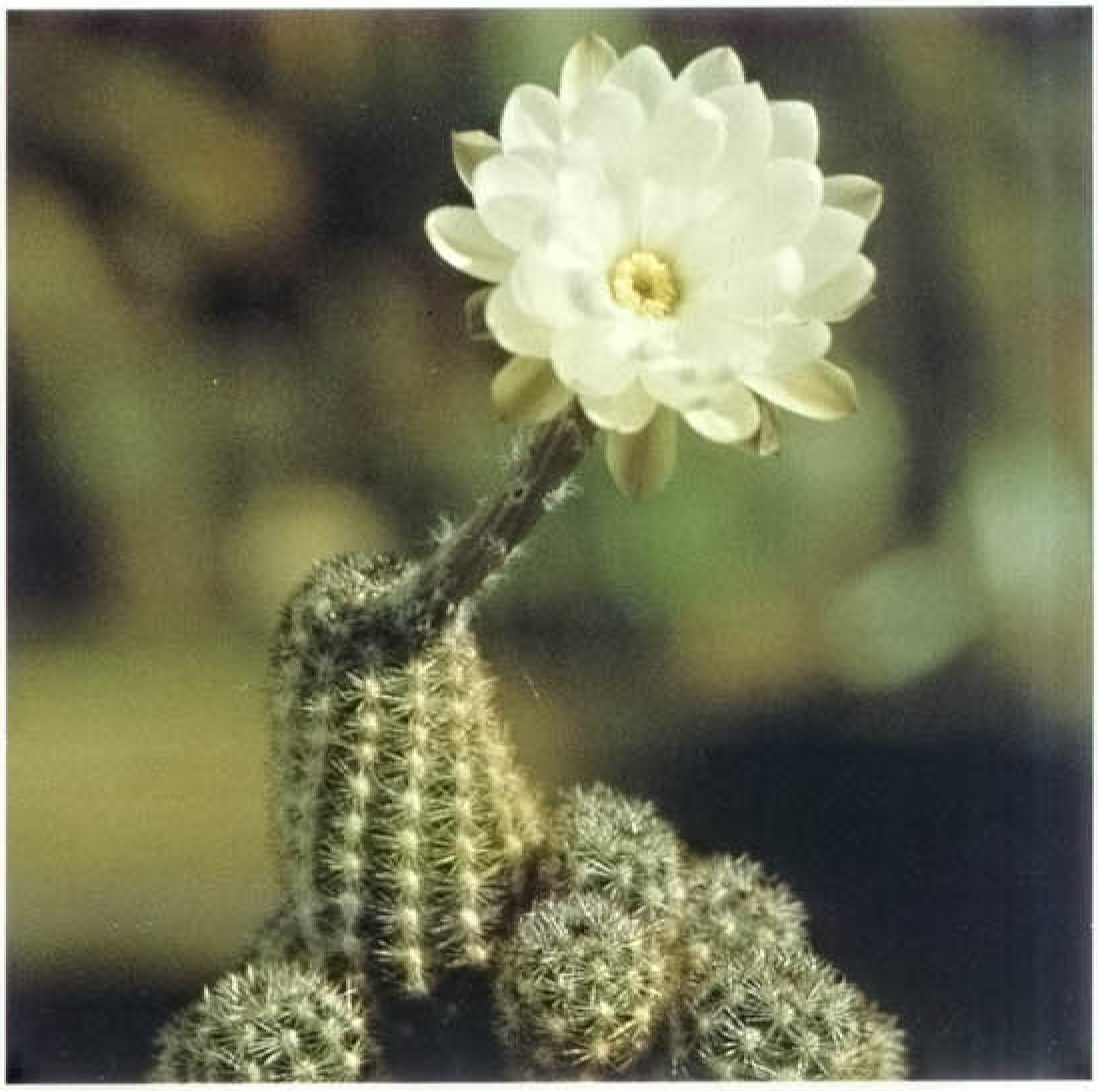
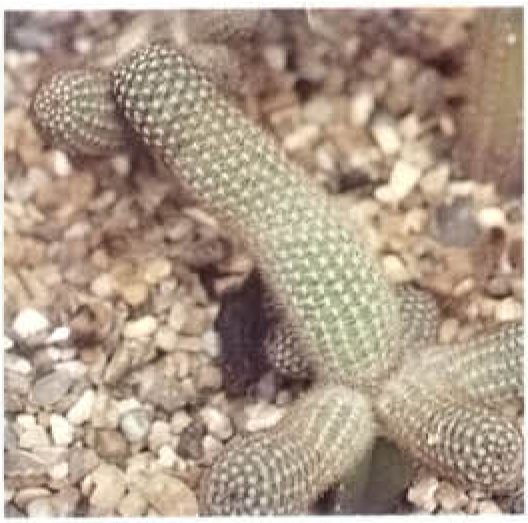
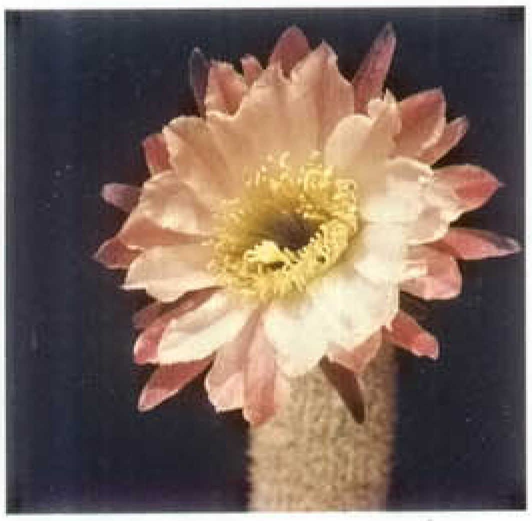


PYGMAEOCEREUS



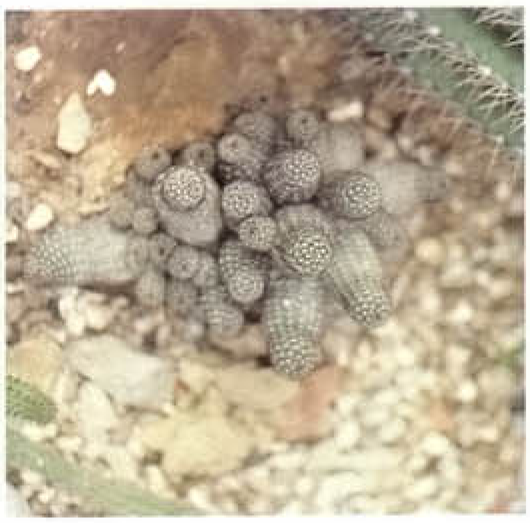
PYGMAEOCEREUS **BYLESIANUS** Andreae & Backeb.

This species, which has a close affinity to *P. rowleyanus* Backeb. and in all probability is synonymous, is often difficult in cultivation. By grafting on to robust stock success can be more readily achieved, the general growth often being slightly at variance with that of wild plants.



PYGMAEOCEREUS **DENSIACULEATUS** Backeb.

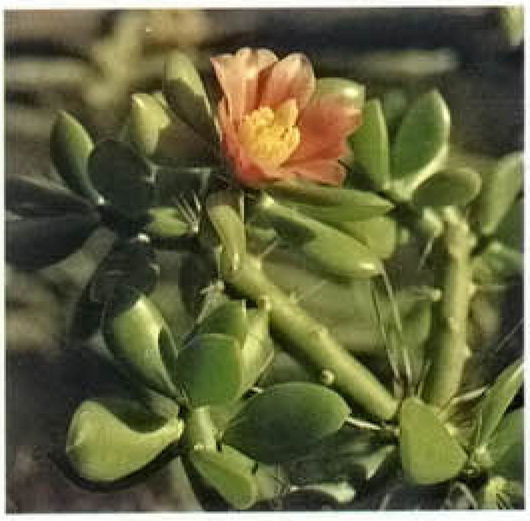
A small grouping species with stems about ⅔in in diameter. It has about 18 ribs with close-set, round, light-brown areoles about ⅒in apart. There are about 30 very fine pale reddish-brown spines, about ⅒in long, more or less covering the whole body. Flowers are rose-pink, with outer segments a deeper pink; they are nocturnal flowering, in summer. Requires a sunny position; normal cactus compost; minimum temperature 50°F. *Peru.*



PYGMAEOCEREUS **ROWLEYANUS** Backeb.

This was referred to *Arthrocereus* by Buxbaum, and is probably synonymous with *P. bylesianus*. It is a dark grayish-green short columnar to globular plant up to 3¼in high, ¾in in diameter. It has about 16–18 ribs with round, white areoles bearing many fine grayish-white radial spines up to ⅒in long and one or more black central. Flowers are nocturnal, blooming in mid-summer. They are white, funnel-shaped, and up to about 2½in in length, externally scaly. Requires good light; normal cactus compost; minimum temperature 50°F. *Peru.*

QUIABENTIA



QUIABENTIA **ZEHNTNERI** Br. & R.

A tall, bushy plant 6½–10ft high with slender, green, cylindrical stems and roundish or oval-shaped leaves ¾–1½in long. The areoles are white-felted, bearing numerous short and fine whitish spines. Day flowering in summer, the flowers are a reddish pink and about 1½in long, opening to 3¼in in diameter. Requires careful watering at all times; bright light; an enriched mineral compost; minimum temperature 55°F. *Brazil (Bahia).*

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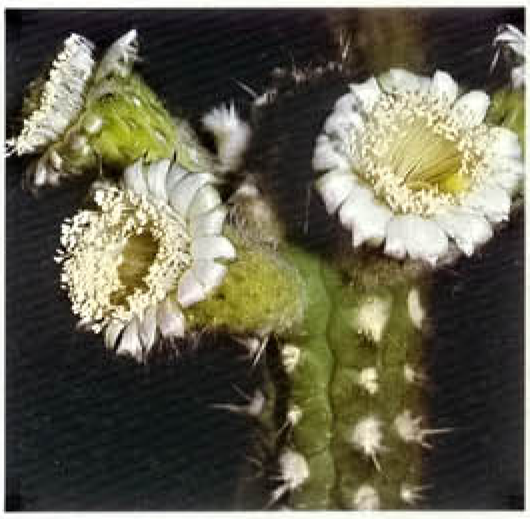
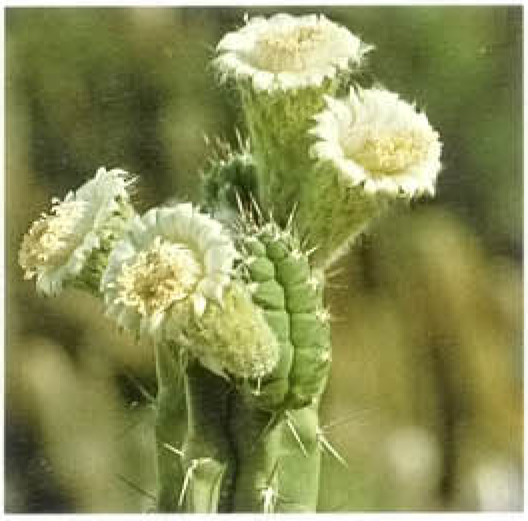


RAUHOCEREUS **RIOSANIENSIS** Backeb.
Syn: *Browningia riosaniensis* (Backeb.) Rowley

A bushy columnar plant, to 13ft high. The bluish-green branches are about 3¼in wide and the five to six ribs are divided by furrows into tubercles, each tubercle carrying a woolly areole. There are six to eight reddish spines, some to only ⅕in long. Nocturnal flowers, early summer, white, 3¼–4in long and about 2in wide, externally scaly and woolly. Needs bright light; normal cactus compost; minimum temperature 55°F. *Northern Peru.*

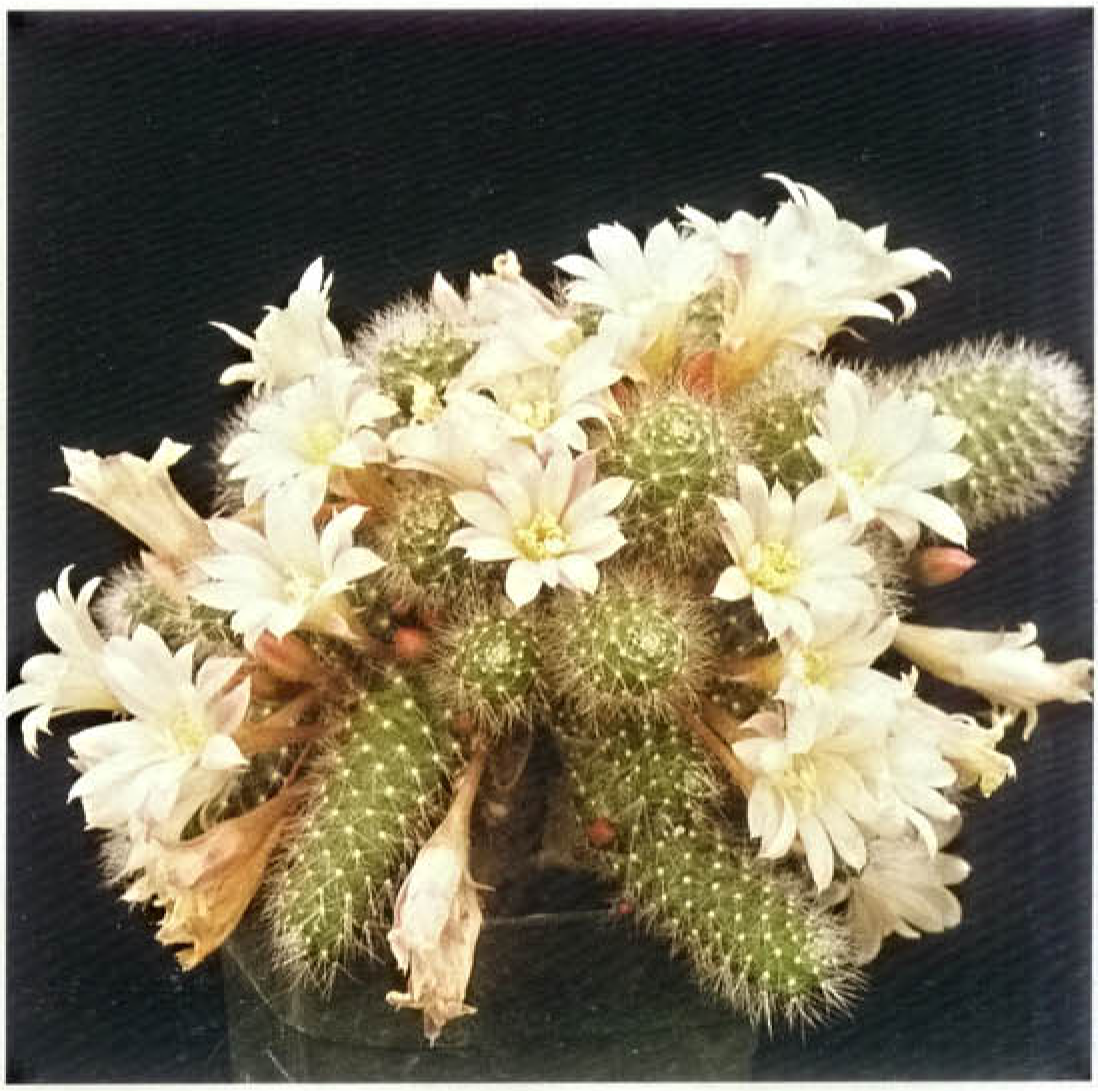


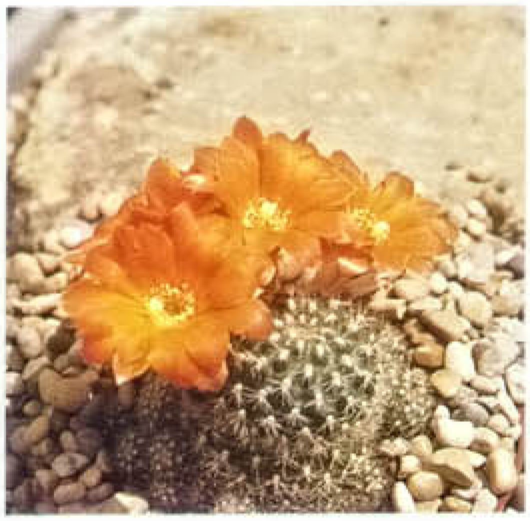
RAUHOCEREUS **RIOSANIENSIS var. JAENENSIS** Rauh

Somewhat similar to the species, the main stem is about 8in in diameter with about six ribs and fewer woolly areoles. Spines are dull gray with two to three radials to ⅔in long and two centrals up to ¾in. Flowers, which are nocturnal, in summer, arise from the top of the stems; they are white, about 3¼in long, 1½in across, and externally green, scaly, and woolly. Requirements are the same as for the species. *Northern Peru (Jaen).*

REBUTIA **ALBIFLORA** Ritter & Buin.
Syn: *Aylostera albiflora* (Ritter & Buin.) Backeb.

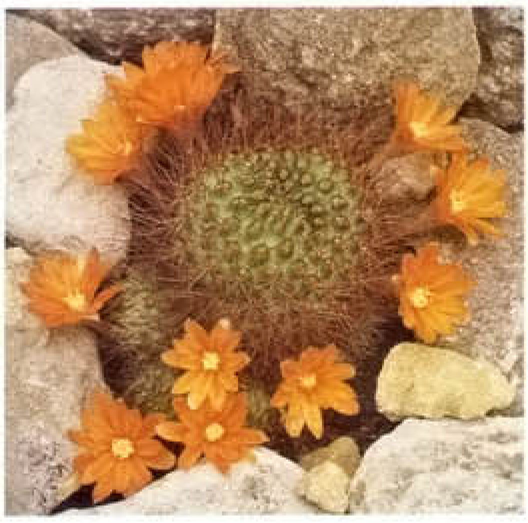
A globular, clustering plant, the bright green individual stems are often slightly elongated. It has 14–16 spirally arranged ribs and areoles with up to 15 fine whitish radial spines and about five centrals, ⅒–⅕in in length. Day flowering, in summer, the flowers are white with a pale pinkish midstripe, about 1in in diameter. Requires bright light; normal cactus compost; minimum temperature 45°F. *Bolivia (Tarija).*





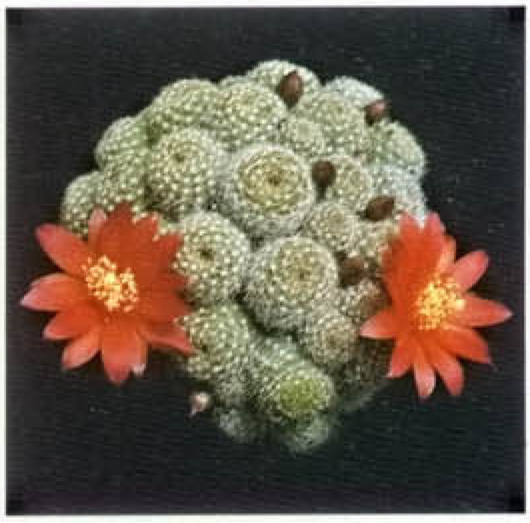
REBUTIA **AUREIFLORA** Backeb.
Syn: *Mediolobivia aureiflora* (Backeb.) Backeb.

Globular plants, clustering freely. The greenish-violet stems are covered with spirally arranged prominent tubercles set with white areoles. Grayish-white spines consist of 10–16 radials up to ¼in long and one to four centrals ⅕–¾in or more. The flowers, diurnal, in summer, are yellow-orange and about 1½in wide. Needs filtered light; normal cactus compost; minimum temperature 45°F. *Argentina (Salta, Jujuy).*



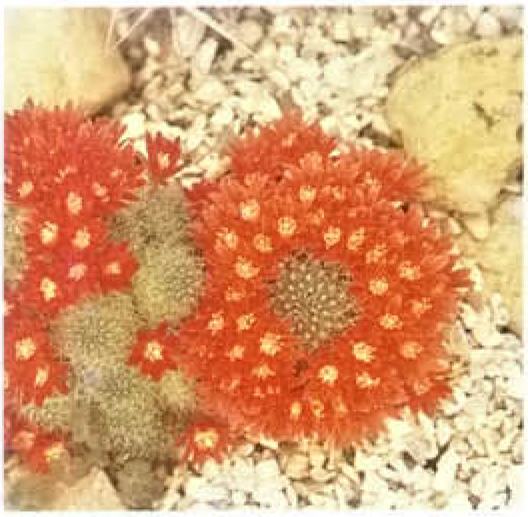
REBUTIA **DONALDIANA** Lau & Rowley

A deep-green globular to cylindrical plant which quickly forms groups. The individual stems are about 3¼in in diameter and up to 4in high. There are 16–18 spiraling ribs with conical tubercles and brown-felted areoles bearing 10–12 white or brown radial spines up to ⅔in long and four to six rich brown central spines, ¾–1in in length. Flowers are a dull orange with bright inner petals up to ⅔in long: they are summer flowering, and diurnal. Requires partial shade; normal cactus compost; minimum temperature 45°F. *Bolivia (Santa Cruz).*



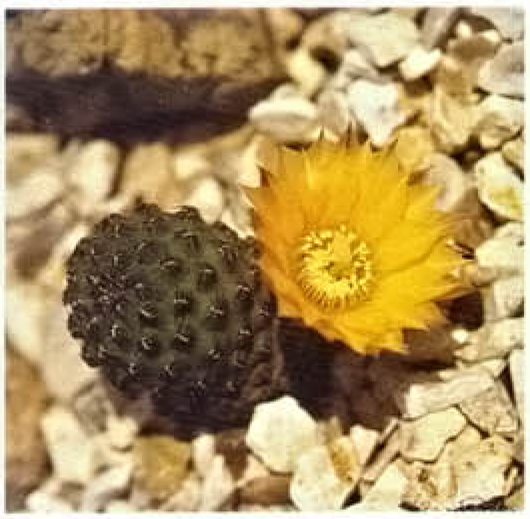
REBUTIA **FABRISII** Rausch

A clump-forming species composed of globular stems about ¾in in diameter and about 14 tuberculate ribs arranged spirally. The areoles are whitish to yellow with numerous similarly colored spines ⅒–⅕in long. Flowering in summer, and diurnal, the flowers are red, about 1in long, and across. Needs bright light; normal cactus compost; minimum temperature 45°F. *Argentina.*



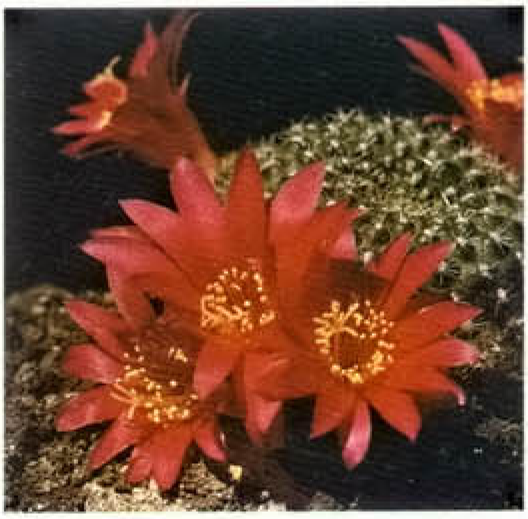
REBUTIA **DEMINUTA** (Weber) Br. & R.
Syn: *Aylostera deminuta* (Weber) Backeb.

A clustering species; the individual stems are dark green, globular, and about 2½in in diameter. It has up to 13 ribs with close-set tubercles and whitish-gray areoles bearing 10–12 brownish radial spines ⅕–¼in long. Very free-flowering in mid-summer, the flowers are diurnal, a deep orange-red, and about 1in long. Requires very slight shade; normal cactus compost; minimum temperature 45°F. *Argentina (Tucuman).*



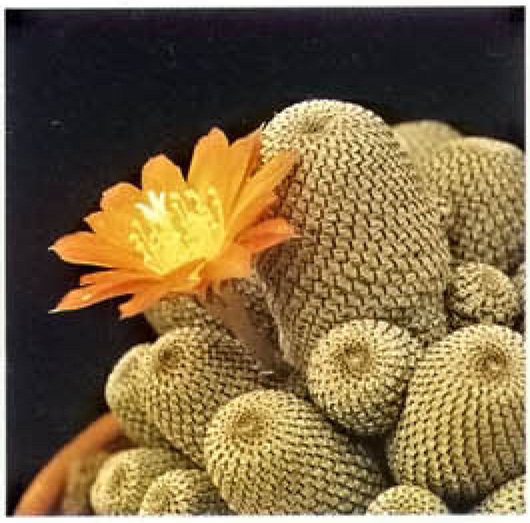
REBUTIA **EINSTEINII** Frič
Syn: *Mediolobivia schmiedcheniana* (Köhl.) Krainz var. *einsteinii* (Frič) Backeb.

A most variable clustering plant with pale green to dark brownish-green stems, ¾–1in thick. It has minute pale to dark-brown spines ⅒–⅕in long, often densely pectinate. The plant shown here is a variety discovered at Quebrada del Toro, Jujuy, and not yet botanically described. Flowers are bright yellow, around 1in wide, and are diurnal, appearing in mid-summer. Needs bright light; normal cactus compost; minimum temperature 45°F. *Argentina (Salta).*



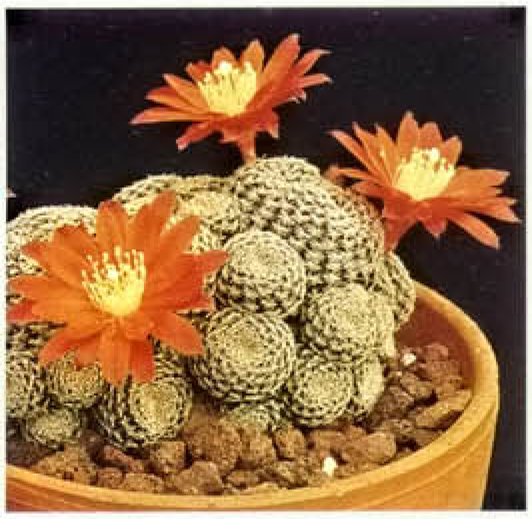
REBUTIA **GRANDIFLORA** Backeb.

A dark green, clump-forming plant about 2in high, 3in in diameter, globular in shape. It has about 25 spiraling, tuberculate ribs with whitish areoles, and about 25 whitish radial spines and usually four centrals which are more brownish. Flowers are bright red and about 2¾in long; they are diurnal, in summer. Requires a fairly sunny position; normal cactus compost; minimum temperature 45°F. *Northern Argentina (Salta).*



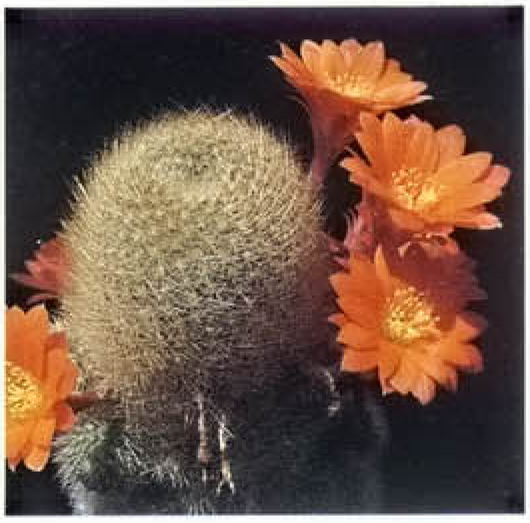
REBUTIA HELIOSA Rausch

A small gray-greenish, slightly flattened globular to short cylindrical plant, ⅔–1in in diameter, ¾in high, which offsets freely. It has 35–40 ribs arranged spirally, with low tubercles. The brown-felted areoles have 24–26 comb-like spines up to 1/16in long, but no centrals. Day flowering in summer, the flowers are orange or reddish, 1¾–2¼in long, 1½in in diameter. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Bolivia (Tarija).*



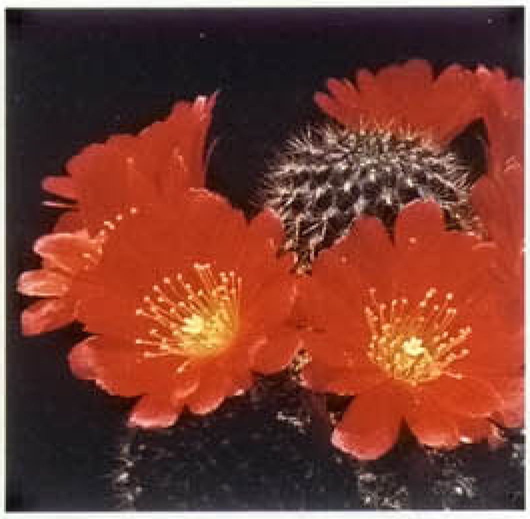
REBUTIA HELIOSA var. CONDORENSIS Donald

Grayish-green clustering plants, individually about 1in high, 1½in in diameter, with 30-40 low-tuberculate ribs. The areoles carry 12–16 white comb-like spines ⅕in long. Flowering in summer, and diurnal, the flowers are reddish-purple, 1–1½in long. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Bolivia (Tarija).*



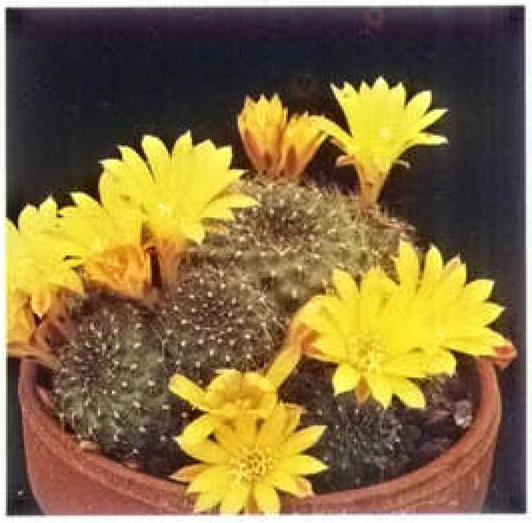
REBUTIA HOFFMANNII Diers & Rausch

Clustering grayish-green plants with more or less globular stems about 1⅓–1½in thick, to 2in high with over 30 tuberculate ribs. The pale-brownish areoles carry numerous pale-yellowish, soft, bristly spines up to ⅓in long. Flowers, about 2½–2¾in in diameter, are day flowering in mid-summer; they are orange with a slight tinge of pale lavender. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Argentina (Salta).*



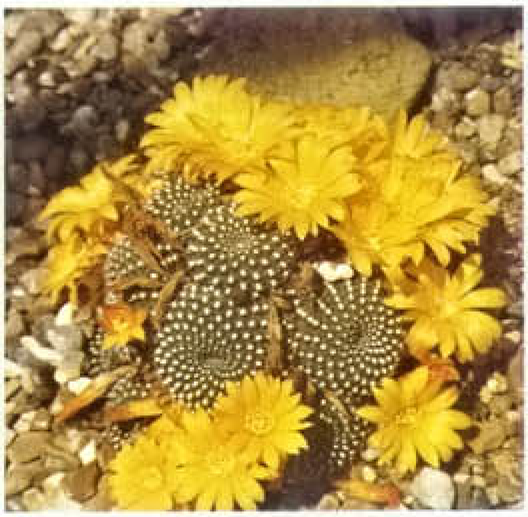
REBUTIA KUPPERIANA Böed.
Syn: *Aylostera kupperiana* (Böed) Backeb.

A freely clustering plant with dark leaf-green stems about 1in in diameter and about 15 tuberculate ribs. The areoles are yellowish, bearing 13–15 whitish-brown radial spines ⅕–⅓in long and one to three darker brown centrals up to ½in in length. Flowers appear by day in summer and are vermilion to bright red, 1½in long, 1⅓in across. Needs a fairly bright position; normal cactus compost; minimum temperature 45°F. *Bolivia (Tarija).*



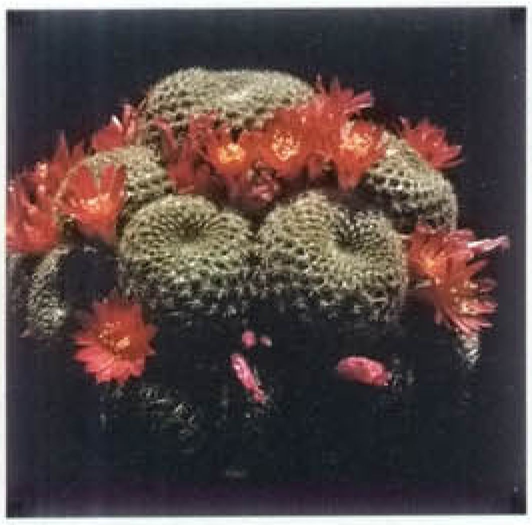
REBUTIA MARSONERI Werd.

A variable species, generally clustering, rarely solitary, with dark-green stems 1½in high, 2in thick, and about 20 tuberculate ribs. The brownish-white areoles bear 30–35 pale-brownish radial spines ⅒–⅔in long. Flowers are usually deep yellow, 1–1⅓in wide, and appear by day in summer. Requires slight shade; normal cactus compost; minimum temperature 45°F. *Argentina (Jujuy).*



REBUTIA MARSONERI var. BREVISPINA Donald

In most respects this is similar to the type, but the white areoles have smaller brownish spines, ⅒–⅕in long. A very neat, attractive form. Requirements are the same as for the species. *Northern Argentina.*

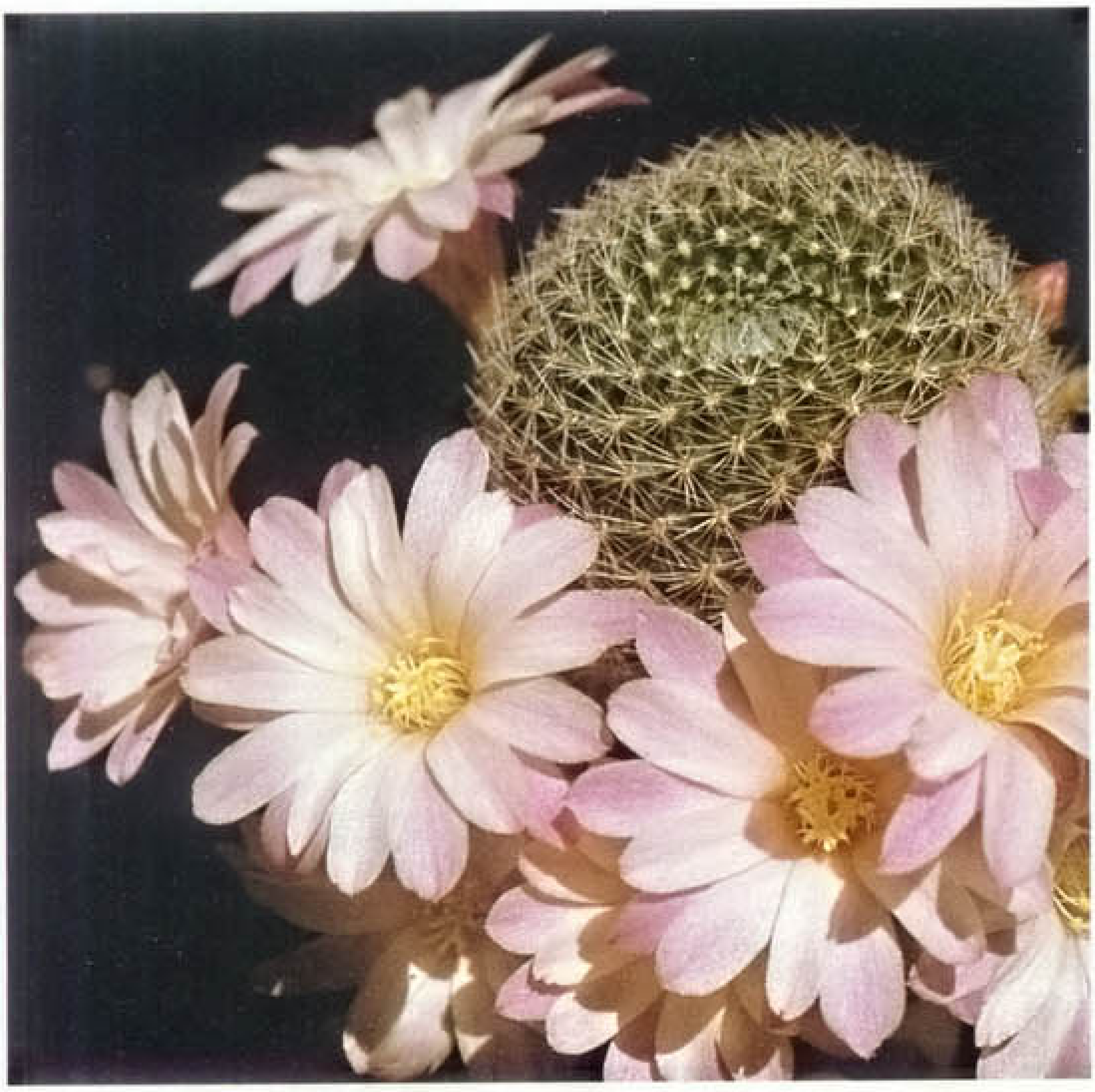


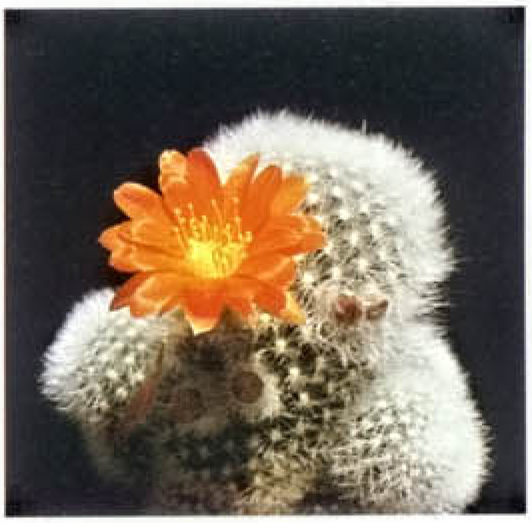
REBUTIA **MINUSCULA** K. Sch.

A free-clustering species. Each stem is globular, with a rather flattened top surface, about 2in in diameter. It has 16–20 dull-green tuberculate ribs spirally arranged, and the small brownish areoles carry about 25–30 whitish radial spines ⅒in long. It is day flowering in summer with bright red flowers, about 1½in long. Needs a fairly bright light; normal cactus compost; minimum temperature 45°F. *Argentina (Salta, Tucuman).*

REBUTIA **NARVAECENSIS** (Card.) Donald
Syn: *Aylostera narvaecensis* Card.

A clustering species with grayish-green, somewhat globular stems about 1in high, 1⅓in in diameter. It has about 18–22 spirally arranged ribs set with low tubercles. The creamy-brown felted areoles bear white or brown spines, 20–30 radials ⅒–⅕in long, and up to six hardly distinguishable centrals. Flowering in summer, the blooms are diurnal, and are a pale rose pink and up to 1¾in long, 1½in wide. Needs slight shade; normal cactus compost; minimum temperature 50°F. *Bolivia (Cochabamba).*



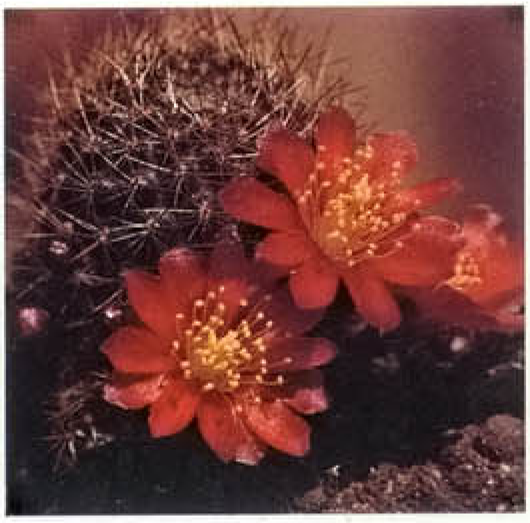


REBUTIA **NIVEA** Ritter

A controversial species closely associated with *R. fiebrigii* var. *densiseta*. It is a small globose plant up to about 2in diameter with 20 or more ribs and areoles bearing many fine whitish spines up to ¾in long. The flowers, which are bright yellowish red, are about 1in in diameter and it is day flowering in mid-summer. Needs slight shade; normal cactus compost; minimum temperature 45°F. *Bolivia.*

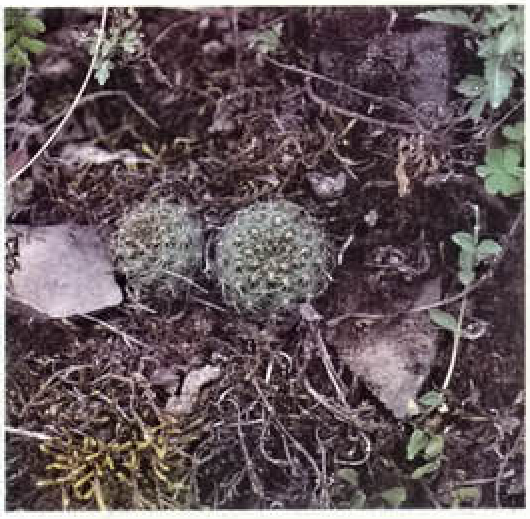
REBUTIA **PADCAYENSIS** Rausch

A fresh to grayish-green, semi-globose plant which generally offsets and is up to 1in high, 1½in in diameter. It has 14–16 ribs divided into tubercles ¼in long and wide, with white to brown-felted areoles bearing 12–14 pale yellow, brown-tipped radial spines ⅕–½in long. Flowering by day, in summer, the blooms are red with a white throat and a greenish midstripe to the outer segments, about 1⅓in long and across. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Argentina, Bolivia.*



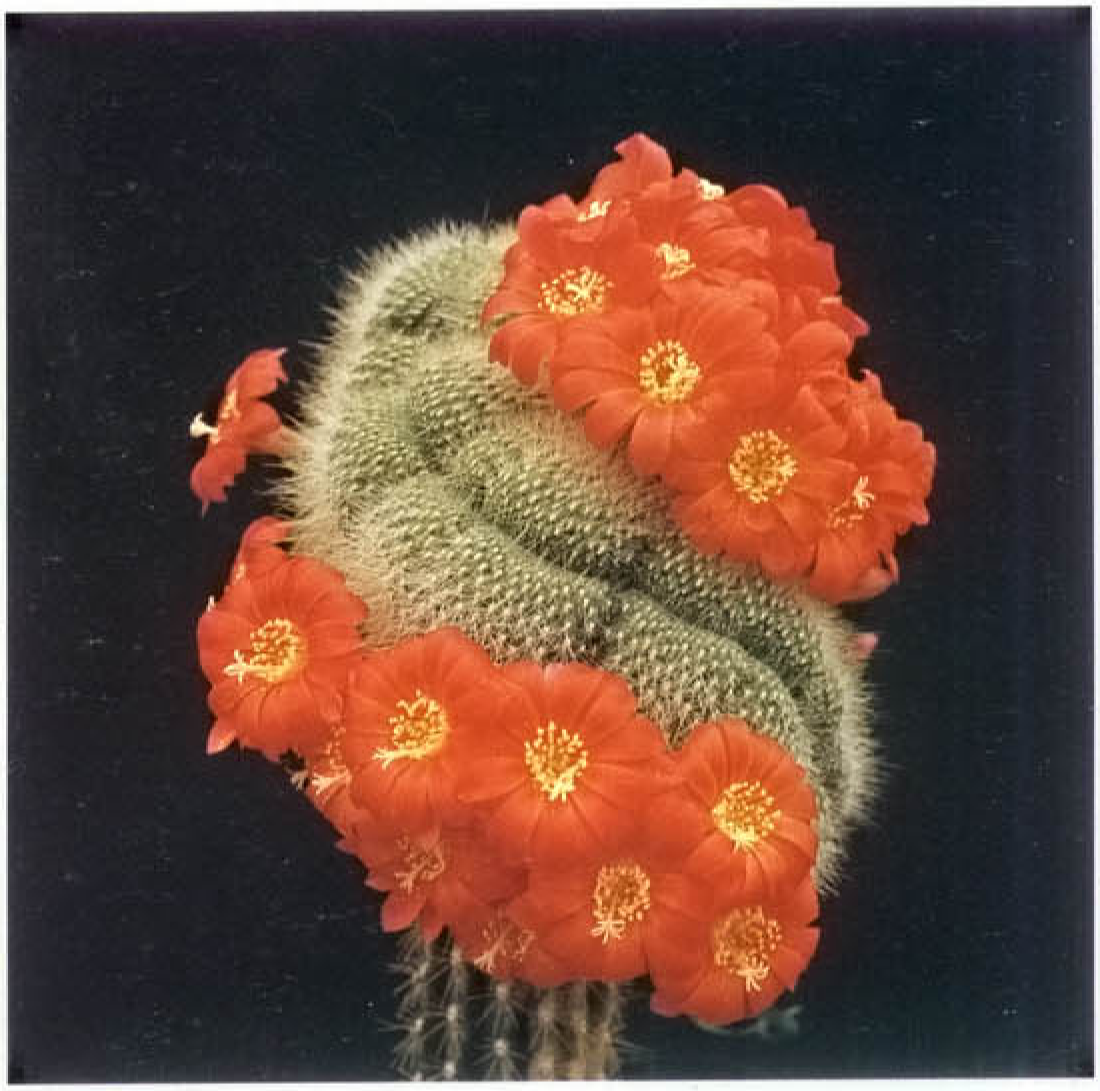
REBUTIA **PSEUDODEMINUTA** Backeb.
Syn: *Aylostera pseudodeminuta* (Ritter & Buin.) Backeb.

Deep-green, solitary stems about 4in long, 3¼in in diameter. There are about 20 ribs divided into tubercles and the brown areoles bear about 10 glassy-white radial spines ⅒–⅓in long, and two to three yellowish centrals ½–⅔in in length. Day flowering in summer, the flowers are carmine red and 1–1½in in diameter. Requires fairly bright light; normal cactus compost; minimum temperature 50°F. *Argentina (Salta).*



REBUTIA **PSEUDOMINUSCULA** (Speg.) Br. & R.
Syn: *Aylostera pseudominuscula* Speg.

A group-forming species with somewhat cylindrical, dark green stems up to about 3¼in high, 1–1½in wide. It has about 14 ribs in spiraled rows of tubercles. The spines are brownish: seven to fourteen radials ⅒–⅓in in length, and one to four centrals. Flowers appear by day, in early summer, and are purplish red, about 1in long. Requires slight shade; normal cactus compost; minimum temperature 45°F. *Argentina (Salta).*



▲

REBUTIA **SENILIS** Backeb.

A deep-green, flattened-globular species which clusters freely. It is up to 3¼in high, 3in across and has about 18 spirally arranged ribs divided into tubercles. Areoles are white and bear about 25 yellowish-white fine spines about 1in long, often matted together. Appearing by day, in summer, the flowers are carmine red, 1⅓in in diameter. On rare occasions an interesting cristate form develops, and invariably the spiraling arrangement is much in evidence, coupled with the profusion of flowers. Requires a fairly bright position; normal cactus compost; minimum temperature 50°F. *Argentina (Salta).*

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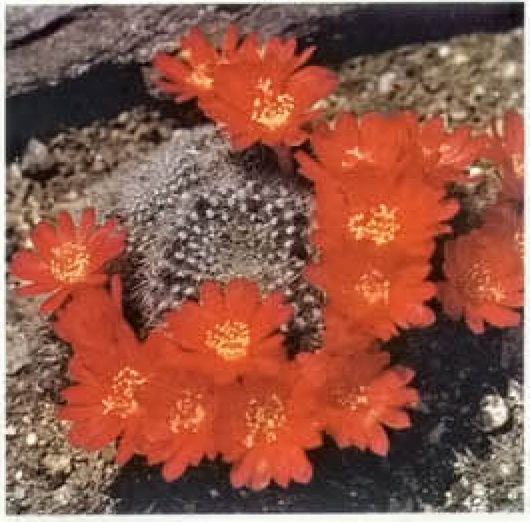
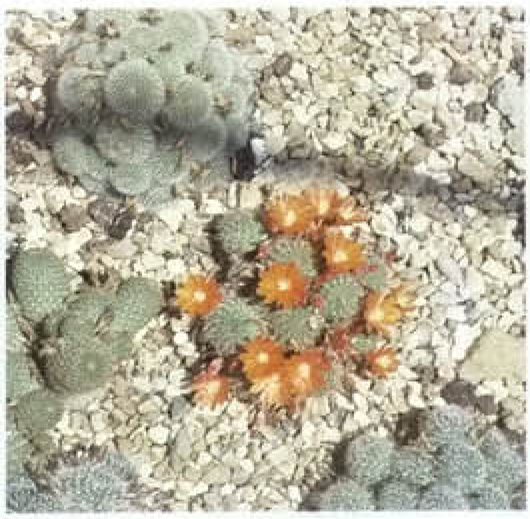
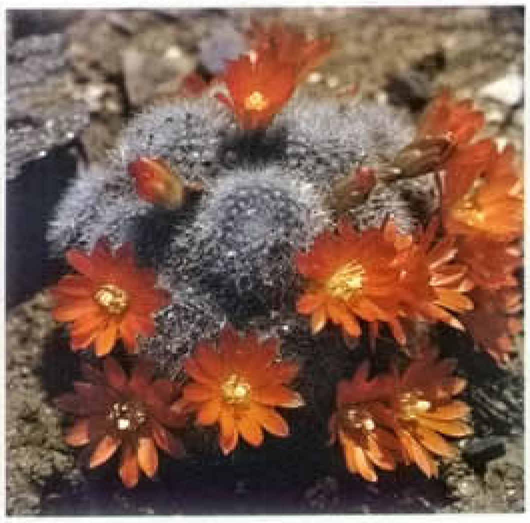




REBUTIA **SPEGAZZINIANA** Backeb.
Syn: *Aylostera spegazzinii* (Backeb.) Backeb.

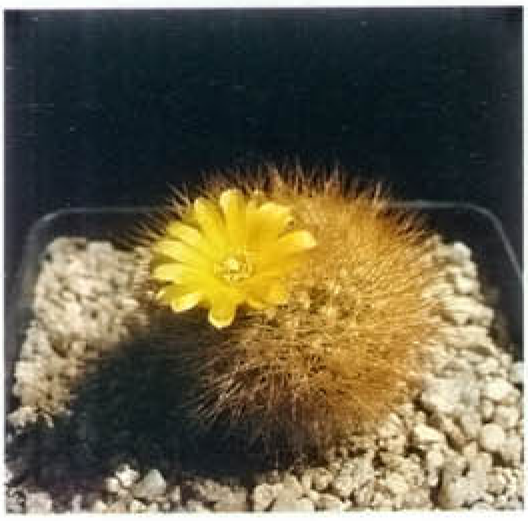
A more or less globular plant with bright green stems 1–2in wide, 2½–3¼in long, forming dense clusters. It has about 18 ribs with quite prominent tubercles, and the whitish-felted areoles bear 14 whitish radial spines up to ⅕in long, closely adpressed to the stem, and three to six centrals only to ⅒in long. Day flowering in early summer, the flowers are a pale vermilion, 1in wide. Needs only slight shade; normal cactus compost; minimum temperature 45°F. *Argentina (Salta).*

REBUTIA



REBUTIA SPINOSISSIMA Backeb.
Syn: *Aylostera spinosissima* (Backeb.) Backeb.

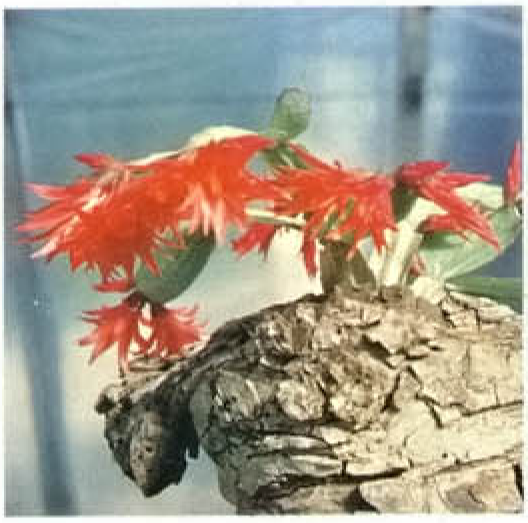
More or less globular plants 2–2½in thick, bright green, and clustering freely around the base. There are about 15 or more spirally arranged ribs set with tubercles, and the white hairy areoles bear numerous whitish bristle-like radial spines, up to ½in long, and five to six thicker yellowish-white centrals. Flowers are medium red, 1½in long and 1in in diameter; they are diurnal, appearing in summer. Requires slight shade; normal cactus compost; minimum temperature 45°F. *Argentina (Salta), Bolivia (Tarija).*



REBUTIA WEINGARTIANA Ritter nom nuda

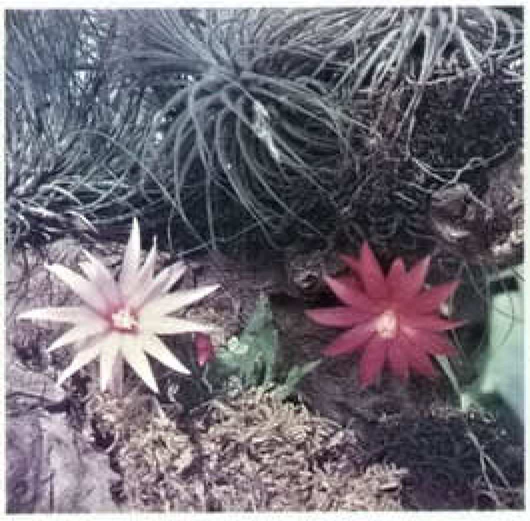
A doubtful species which might well be included within *Sulcorebutia*. The somewhat globular, dark green stem has about 30 ribs with grayish-white areoles and yellowish-brown spines, both radials and centrals. Flowers are bright yellow, about 1in long, and appear by day in early summer. Requires bright light; normal cactus compost; minimum temperature 45°F. *Bolivia.*

RHIPSALIDOPSIS



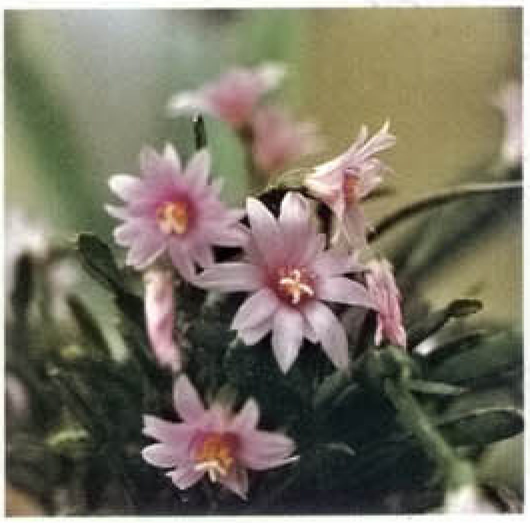
RHIPSALIDOPSIS GAERTNERI (Regel) Moran
Syn: *Schlumbergera gaertneri* (Regel) Br. & R.
Epiphyllopsis gaertneri (Regel) Lindinger

A bushy epiphytic species composed of many flat oval joints or segments 1½–3in long, ¾–1in broad in a link-like formation. Each joint has three to five tubercles with areoles on each side which carry one or two yellowish bristles. The flowers are scarlet, appearing by day in late spring or early summer. Requires filtered light, not full sun; a porous acid cactus compost; minimum temperature 50°F. *Brazil (Minas Gerais, Parana).*



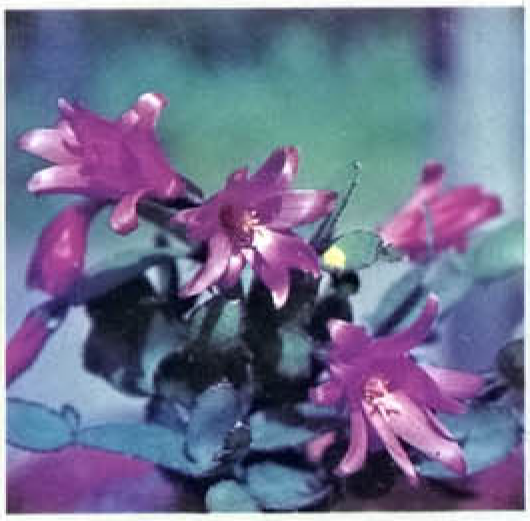
RHIPSALIDOPSIS x HYBRIDS

A number of attractive cultivars have been developed in Holland; their exact parentage is not known except that one parent is *Rhipsalidopsis rosea*. They flower in early spring. Requires slight shade; normal cactus compost; minimum temperature 55°F.



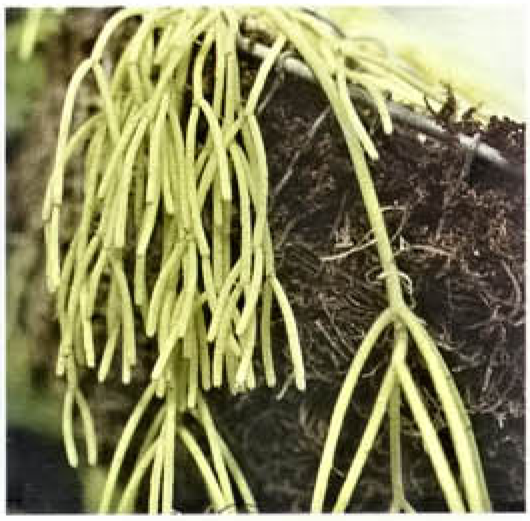
RHIPSALIDOPSIS ROSEA (Lageheim) Br. & R.
Syn: *Rhipsalis rosea* Lageheim

A small shrubby plant with erect or pendant stems composed of flat, sometimes angular segments ¾–1½in long, to ½in wide. These usually have fine reddish margins with minute areoles and a few bristly hairs. Rose-pink flowers are borne on the longer areole on the terminal joints; these appear by day in spring and early summer, and are 1–1½in across. Requires a semi-shaded position; an open, enriched compost; minimum temperature 50°F. *Brazil (forests of Parana).*



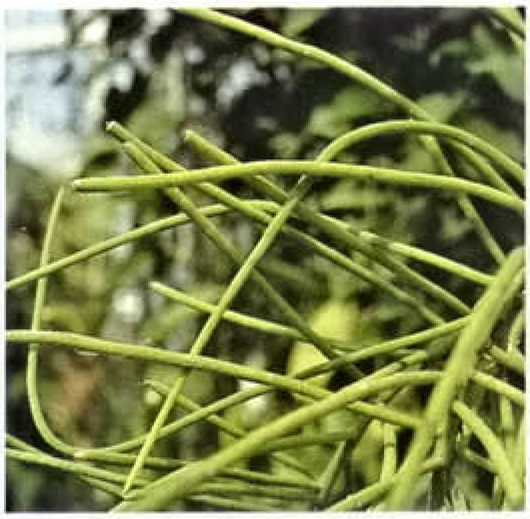
RHIPSALIDOPSIS ROSEA var. ELEKTRA hort.

These plants are similar to the species, but with deeper green segments and more pronounced marginal areoles. The flowers are purplish pink. Requirements are the same as for the species.



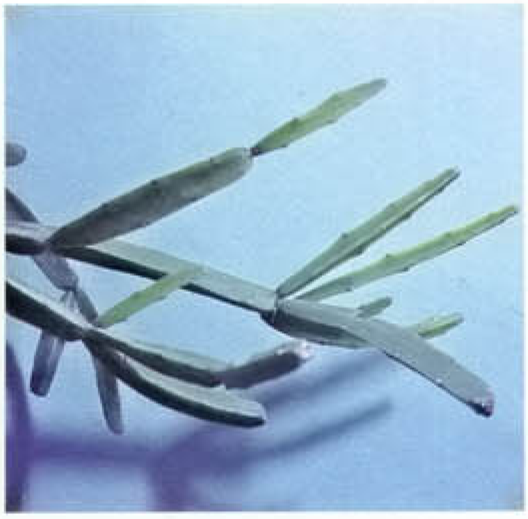
RHIPSALIS **CAPILLIFORMIS** Weber

An elongating, slender-stemmed epiphyte with many very thin pale-green branches 8in–1ft 3in long, about ⅒in thick, often arranged in whorls. The areoles are minute, but have no bristles or spines. Flowers appear in late spring at the terminal ends of the branches and joints. They are a glossy greenish white, about ⅓in long, and day flowering, and are followed by white fruits. Requires semi-shade; normal cactus compost; minimum temperature 50°F. *Eastern Brazil.*



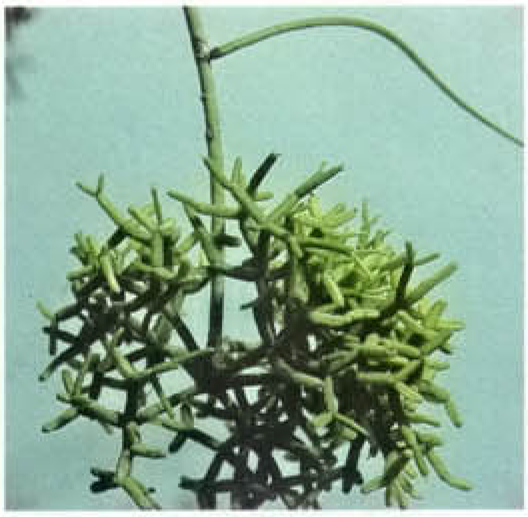
RHIPSALIS **CASSUTHA (cassytha)** Gaertn.

A pendent, bushy epiphyte over 3ft in length. The pale green branches carry cylindrical joints 4in–1½ft long, ⅒–⅕in thick. Flowers appear by day in early summer and are yellowish white, about ⅕in long, ⅓in wide. They are followed by pale pinkish or white fruits. Needs shade; normal cactus compost; minimum temperature 50°F. *USA (Florida) to Southern Brazil, Tropical Africa, Sri Lanka.*



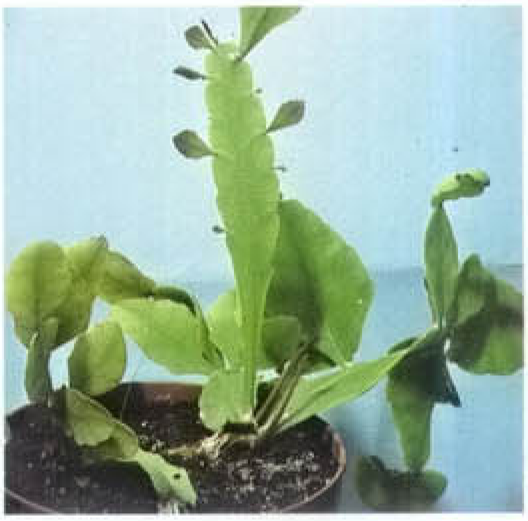
RHIPSALIS **CEREOIDES** Backeb. & Voll

An epiphyte of pendent or semi-erect habit. The branches or joints are usually three-angled, more rarely four-sided, and a dull bluish green, up to between 3¼–6in in length, and about ⅔in thick. Small prominent areoles sometimes develop two to four whitish bristles which soon fall. Flowering in late spring, the white flowers are diurnal, growing two to four together, and are about ¾in across. Fruits are pink. Requires slight shade; normal cactus compost; minimum temperature 55°F. *Brazil (Rio de Janeiro).*



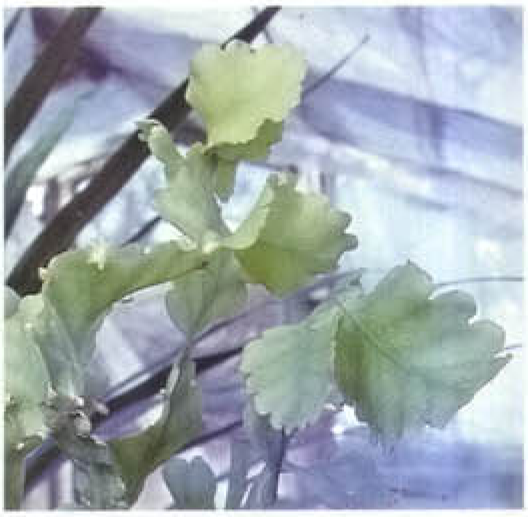
RHIPSALIS **CEREUSCULA** Haw.

A well-known pendent epiphyte which forms a many-branched plant up to 2ft long. The longer stems are 4in–1ft in length, while the shorter are arranged in whorls, the joints about ⅔in long. All branches and joints are cylindrical in shape, and ⅒–⅕in thick. The small areoles have wool and two to four bristles, and the flowers are produced from the tips of short joints. They are ⅔in long, with whitish petals and pinkish-green sepals, and are day flowering, in spring. Requires filtered light; normal cactus compost; minimum temperature 50°F. *Brazil (Sao Paulo), Argentina, Paraguay.*



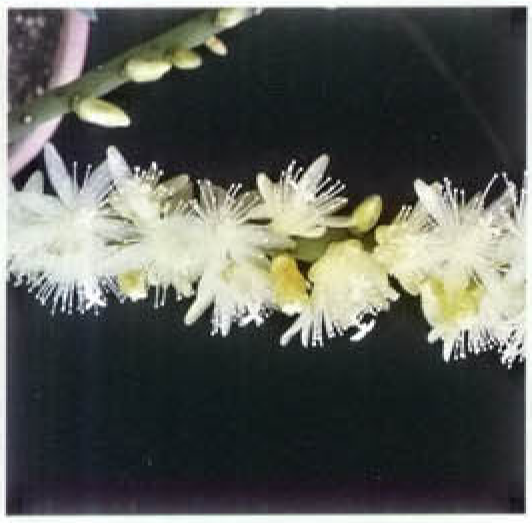
RHIPSALIS **CRISPATA** (Haw.) Pfeiff.

An epiphyte with pale green, leaf-like joints, 2½–4¾in long, 1–2½in broad. These are slightly wavy-edged with shallow crenations and minute areoles which are spineless. Early summer flowering, the flowers are diurnal, creamy yellow, and about ⅔in long, followed by white fruits. Needs slight shade, which is essential; normal cactus compost; minimum temperature 55°F. *Brazil (Sao Paulo, Rio de Janeiro).*



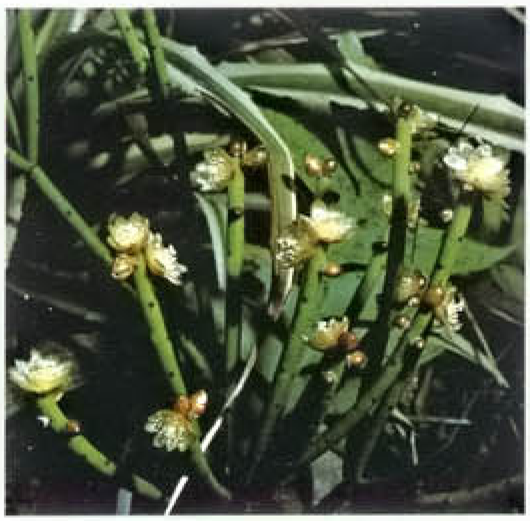
RHIPSALIS **CRISPIMARGINATA** Löefgr.

A semi-erect or pendent species which is epiphytic on forest trees. The thin, pale green joints are somewhat rounded with a prominent midrib and lateral veins, the margins wavy-edged and lobed. Overall they are 2–3¼in long, 1½–2½in broad, and have minute areoles. Two or three flowers, which are diurnal, in early summer, are produced from an areole, mainly from the lateral areoles, and are yellowish white, up to ½in long; these are followed by rose-pink fruits. Needs semi-shade; normal cactus compost; minimum temperature 50°F. *Brazil (Rio de Janeiro).*



RHIPSALIS **FASCICULATA** (Willd.) Haw.

A much-branching epiphyte with erect or semi-pendent stems. These have more or less cylindrical, pale bluish-green joints 3¼–4in long, ⅕–¼in thick. The areoles are small, slightly woolly, and with few bristles. Flowering by day in early summer, the numerous flowers are borne laterally, and are white or pale greenish white and up to ⅓in long, 2–3in wide. Fruits are white. Needs partial shade; normal cactus compost; minimum temperature 55°F. *Brazil (Bahia).*

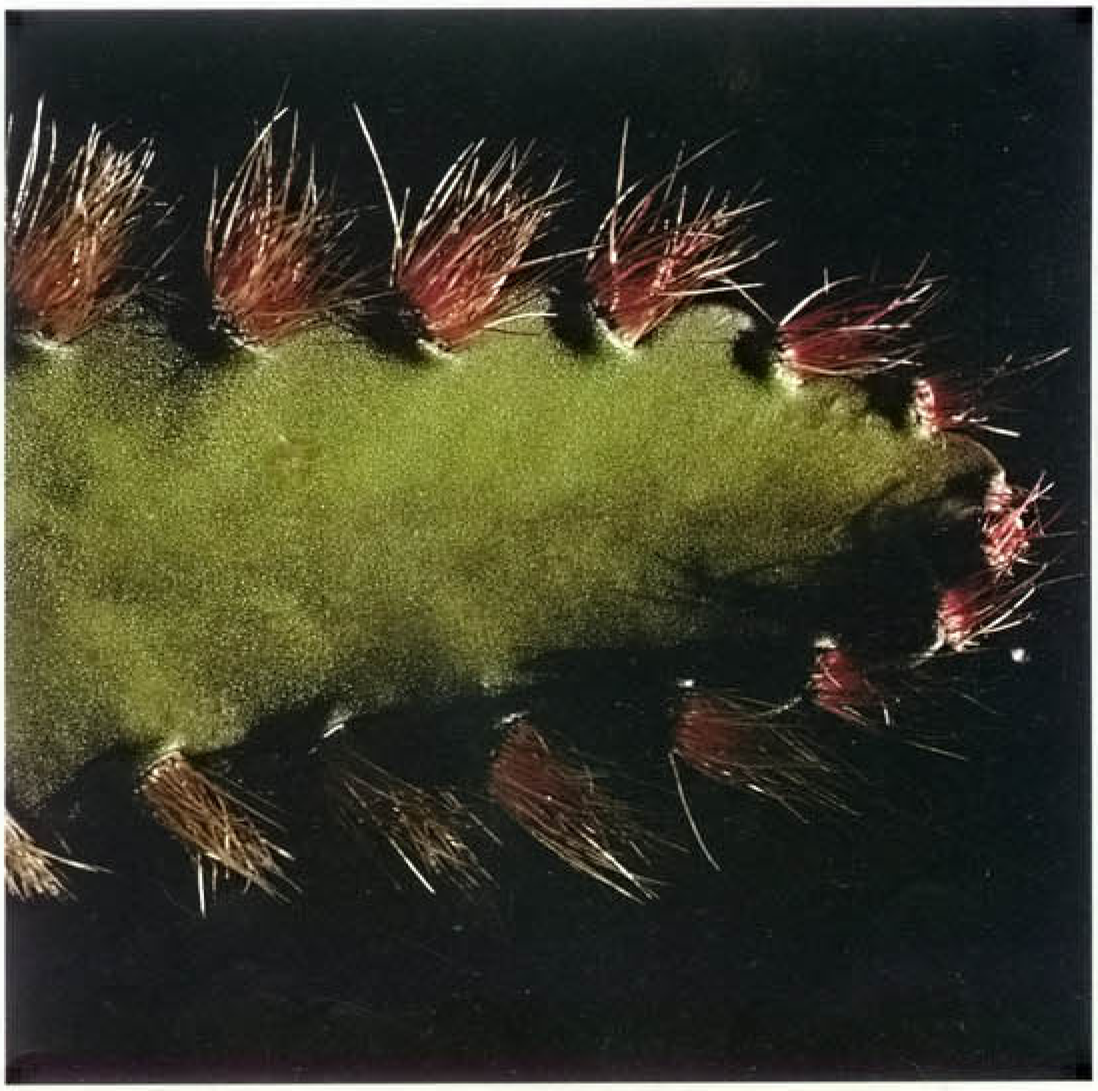


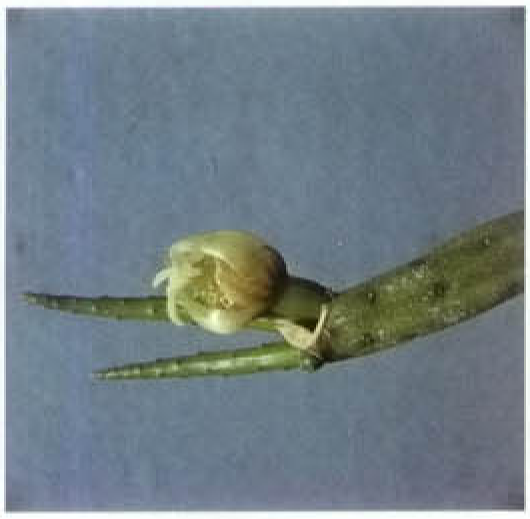
RHIPSALIS **GRANDIFLORA** Haw.
Syn: *Lepismium grandiflorum* (Haw.) Backeb.

A cylindrical-stemmed epiphyte up to 3ft long, ¾in thick, freely branching dichotomously or in whorls. The grayish-green branches are 2–6in long, with the areoles slightly depressed. Late spring or early summer flowering, the flowers are diurnal; they are white with pale greenish-white outer segments and up to ¾in wide. Fruits are reddish. Needs protection from full sun; normal cactus compost; minimum temperature 50°F. *Brazil (Rio de Janeiro).*

RHIPSALIS **INCACHACANA** Card.

A deep-green epiphytic species of pendent habit and up to over 4½ft long. It branches freely, with branches 8in–1ft long, 1½–2½in wide. The yellowish-white areoles are set at intervals along the crenate margins, and bear brownish or yellowish-white bristly hairs about ⅔in long. Flowers are purple violet, about ½in long, and are diurnal, flowering in late spring to early summer. This is a useful plant for hanging baskets. Requires slight shade; normal cactus compost; minimum temperature 55°F. *Bolivia (Incachaca).*





RHIPSALIS **GIBBERULA** Weber
Syn: *Lepismium gibberulum* (Weber) Backeb.

An epiphyte on trees and rocks, this species has greenish to dark grayish-green slightly angular cylindrical joints 4–8in long, ⅒–⅕in thick. The areoles are slightly woolly, rarely with a few fine bristles, and the flowers are borne laterally, up to ½in long, ⅔in wide when fully open. Day flowering in early summer, they are pale yellowish white with greenish or reddish sepals, and are followed by green or red fruits. Requires filtered light; normal cactus compost; minimum temperature 50°F. *Brazil (Sao Paulo).*

RHIPSALIS **LINDBERGIANA** K. Sch.
Syn: Probably *Rhipsalis erythrocarpa* K. Sch., a plant collected in East Africa.

A pendent epiphyte with long, slender stems and branches up to 1ft or more, the main stems frequently over 3ft in length. The branches are cylindrical, ⅕in thick, and the areoles are close set, rarely with a blackish bristle ⅒in long which quickly falls. Pinkish and whitish flowers appear by day in early summer and are about ⅓in long. The fruits are pale reddish. Requires fairly bright light; normal cactus compost; minimum temperature 50°F. *Brazil (Rio de Janeiro).*

RHIPSALIS **MICRANTHA** (HBK) DC.

A pendent robust epiphyte with four- to five-angled stems. The joints are usually three-angled or flat, ⅓in to a little over ½in thick and broad, with slight, remote crenations. The areoles are very small and slightly woolly and the flowers, which appear by day in early summer, are white and about ⅓in long. Fruits are whitish or pinkish. Requires slight shade; normal cactus compost; minimum temperature 55°F. *Ecuador, Northern Peru.*

RHIPSALIS **PENTAPTERA** Pfeiff.

A pale to deep-green bushy epiphyte, more or less erect with many stems up to 1ft 3in high. The joints are five- to six-angled, 3–4¾in long, with regularly notched margins and the areoles often have small bristles. Late spring flowering and diurnal, the flowers are white and about ⅓in long. Fruits may be white or pink. Requires filtered light; normal cactus compost; minimum temperature 50°F. *Brazil, Paraguay.*

RHIPSALIS **LINEARIS** K. Sch.

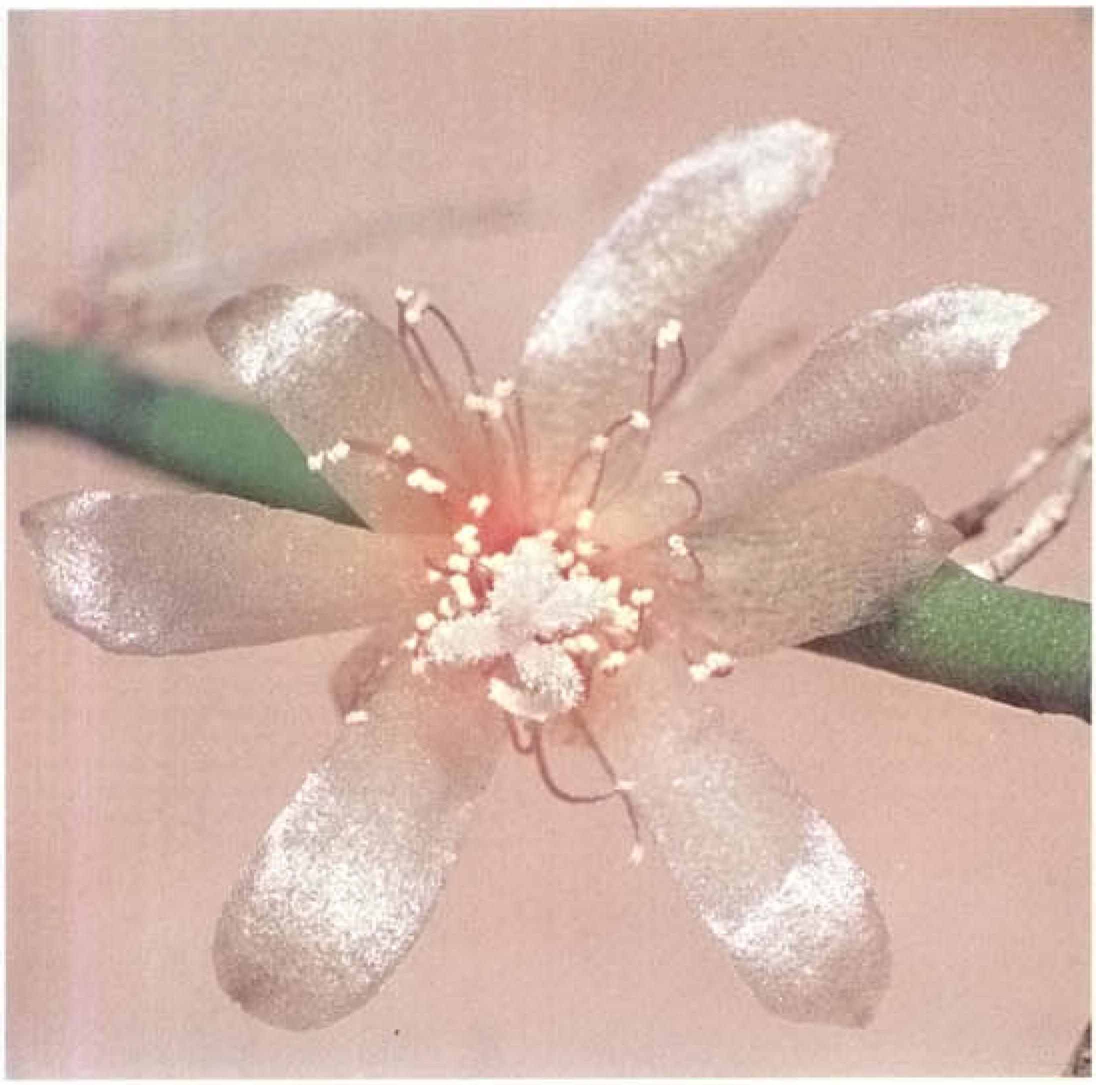
A bushy, pendent epiphyte, freely branching, with pale green stems 2ft or more long. The joints are leaf-like with a prominent midrib, 2–8in long, 2–3in wide. The margins are notched, and a small, slightly woolly but spineless areole is set immediately above each notch. Flowering by day in late spring, the flowers, about ⅔in long, are white and so are the fruits. Requires slight shade; normal cactus compost; minimum temperature 55°F. *Argentina, Brazil, Paraguay.*

RHIPSALIS **PACHYPTERA** Pfeiff.

A semi-erect, becoming slightly pendent, epiphyte with dark green, becoming reddish, leaf-like joints 3¼–8in long, 2–4¾in broad. These have notched margins, a prominent midrib, and lateral veins. One to three flowers are borne from each areole; they are yellowish or white and are about ⅔in long, day flowering, in summer. Fruits are red. Requires partial shade; normal cactus compost; minimum temperature 50°F. *Brazil (Rio de Janeiro).*

RHIPSALIS **PLATYCARPA** Pfeiff.

A branching, bushy plant up to about 3ft high. The dark green joints are leaf-like, linear-oblong, and narrowing at the base. They are 3¼–1ft long, 1½–2in wide, with crenate margins and a very prominent midrib. The whole joint is often edged with red. The areoles are slightly woolly and white or pale-yellowish flowers arise mainly from the side areoles. They are about ¾in long, and bloom by day in early summer. The fruit is greenish white. Requires partial shade; normal cactus compost; minimum temperature 50°F. *Brazil.*



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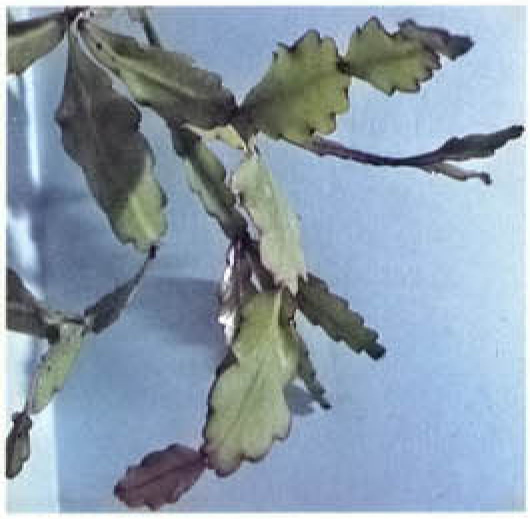
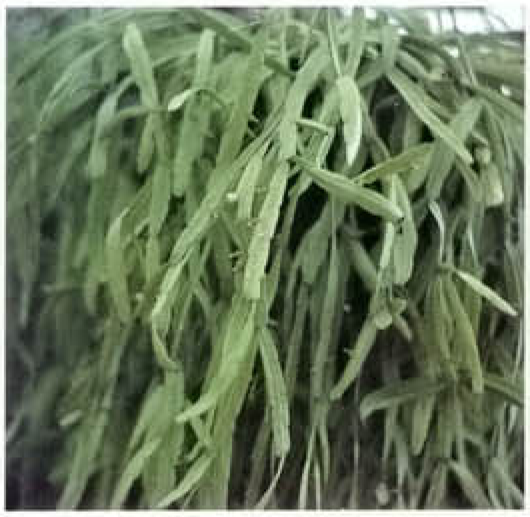
RHIPSALIS **PUNICEO-DISCUS** Lindb. Syn: *Lepismium puniceo-discus* (Lindb.) Backeb.

A pendent epiphyte with pale green or yellowish-green long soft, fleshy stems, ⅕–⅓in thick. The joints are cylindrical, up to 4in long, ⅕in thick, and are generally a darker green with areoles spirally arranged and ringed in red. Spring-flowering by day, the flowers are a glassy white with reddish-pinkish stamens and are about ⅔in long. Fruits are at first black, then become yellow. Requires filtered light; normal cactus compost; minimum temperature 50°F. *Brazil (Minas Gerais).*



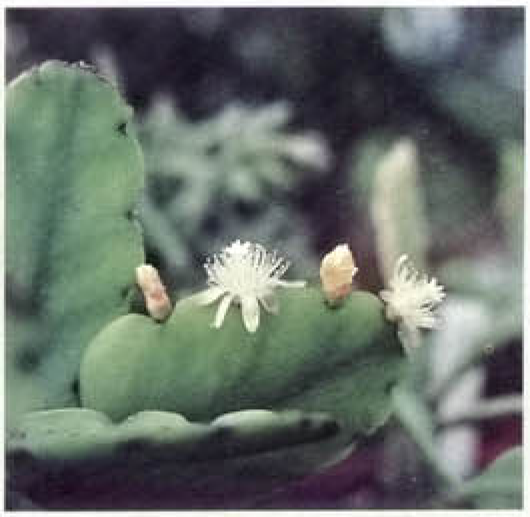
RHIPSALIS **RHOMBEA** (Salm-Dyck) Pfeiff.

A bushy epiphyte with more or less cylindrical stems, up to 2ft 7in high. The joints are flat or three-angled and 1–4¾in long, up to 2in broad, with a prominent midrib and lateral veins. They are dark green or slightly reddish, especially along the crenate margins. Late spring flowering, the flowers are diurnal, yellowish white, and about ½in long, with red fruits following. Requires filtered light; normal cactus compost; minimum temperature 50°F. *Brazil (Sao Paulo).*



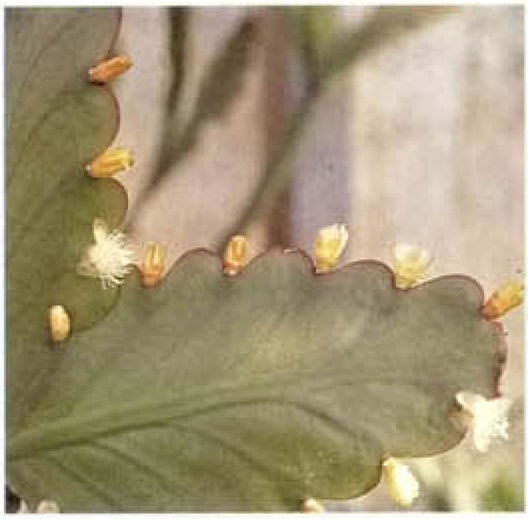
RHIPSALIS **RAUHIORUM** Barthlott

An attractive epiphyte of forest trees with long pendent bright green stems. These are two-sided, 1–2ft in length and ⅔–¾in wide. The individual joints have crenate margins and a prominent midrib. Areoles are small and brown, and bear whitish flowers about ½in long by day in early summer. Fruits are white. It is an ideal plant for hanging baskets. Requires partial shade; normal cactus compost; minimum temperature 55°F. *Ecuador.*



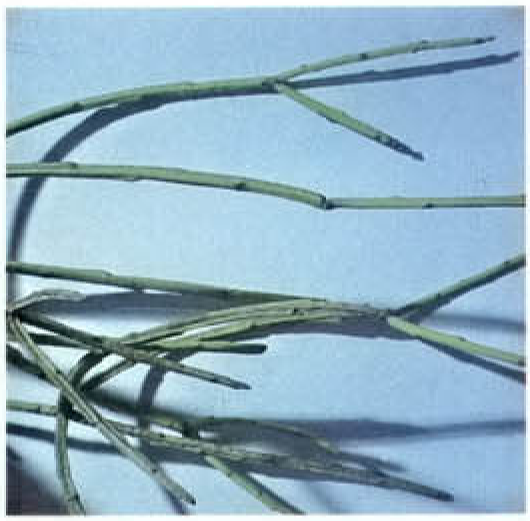
RHIPSALIS **ROBUSTA** Lem.

This is very similar to *R. pachyptera* but it has larger dark green joints, and these are often three-winged, up to 8in long, 4in broad, and quite thick. Areoles are frequently multi-flowered, as many as three to five to each areole. Flowers appear by day in early summer and are pale yellowish white, up to ⅔in long, ¾in across. Fruits are white. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Brazil (Rio de Janeiro).*



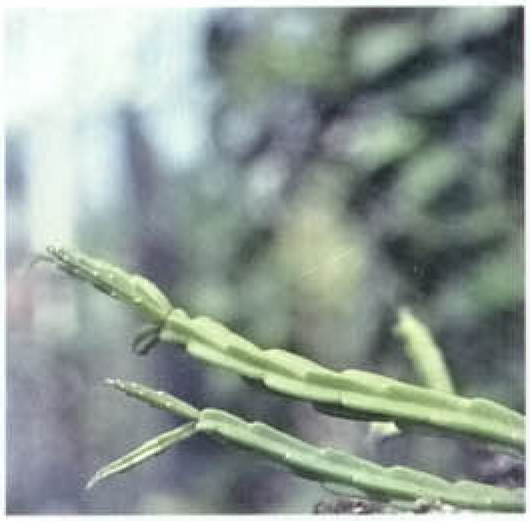
RHIPSALIS RUSSELLI Br. & R.

A densely clustering epiphytic species from forested regions growing on trees. The dark green joints are 6in long, 2–2½in broad; they are flat with crenate margins edged reddish purple and have particularly prominent veining. Each of the whitish areoles produces either single or many whitish flowers about ⅒in long in early summer; these are diurnal. Fruits are purple. Requires slight shade; normal cactus compost; minimum temperature 50°F. *Brazil (Bahia).*



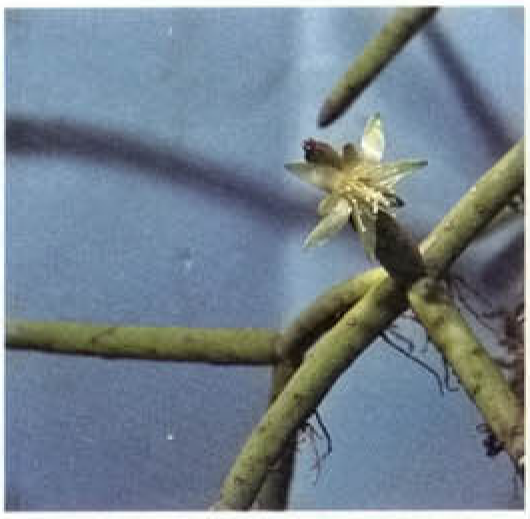
RHIPSALIS SULCATA Weber

An epiphyte whose habitat is uncertain. It is a pale green, more or less erect plant with spreading branches. The joints are five-angled up to 1ft long, ⅒–⅕in thick, with small reddish areoles set far apart. Spring flowering in the daytime, the flowers are white to pale pinkish, and ½in long. Fruits are white. Requires slight shade; normal cactus compost; minimum temperature 55°F. *Ecuador?*



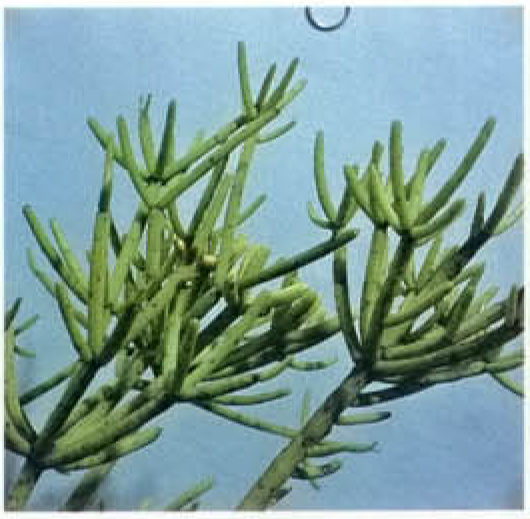
RHIPSALIS TONDUZII Weber

A dark green bushy, pendent epiphyte, with four- to five-angled joints 2½–4in long and ½in thick. The angles or ribs have prominent notches about ¾in apart, in which the areoles are set. Flowers are whitish, less than ½in across; they are diurnal, and spring flowering. Fruits are white. Requires shade; normal cactus compost; minimum temperature 55°F. *Costa Rica.*



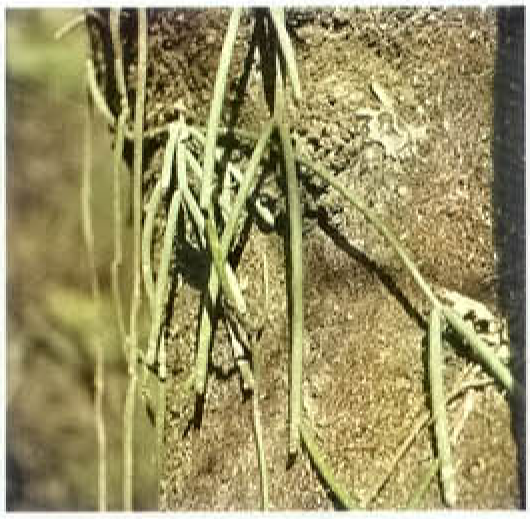
RHIPSALIS SHAFERI Br. & R.

A rather robust epiphyte with thick cylindrical stems and branches. The dull grayish-green branches, ⅕in thick, are usually in whorls and have brownish areoles. Flowering by day in late spring, the flowers are greenish white, and about ½in in diameter. Fruits are white, becoming pink. Needs slight shade; normal cactus compost; minimum temperature 50°F. *Paraguay.*



RHIPSALIS TERES Steud.

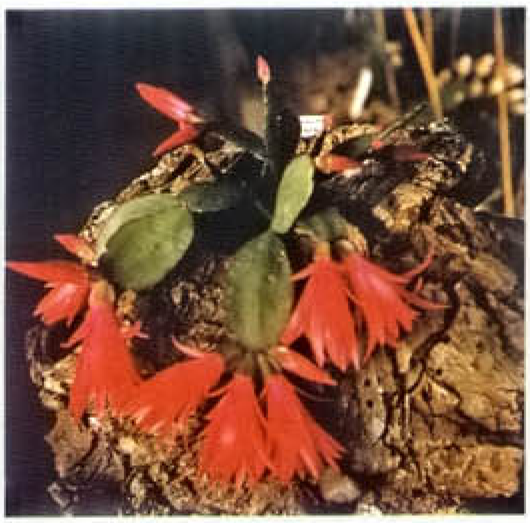
A fresh-green, erect, cylindrical-stemmed epiphyte with many branches. Joints occur in whorls of three to six or more, and are 2½–3½in long, ⅒in thick. The areoles are very small and reddish. Flowering by day in late spring, the flowers are yellowish white, about ½in long and in diameter. Fruits are white. Needs slight shade; normal cactus compost; minimum temperature 50°F. *Brazil (Rio de Janeiro, Sao Paulo to Minas Gerais).*



RHIPSALIS TUCUMANENSIS Weber
Syn: *Lepismium tucumanensis* (Weber) Backeb.

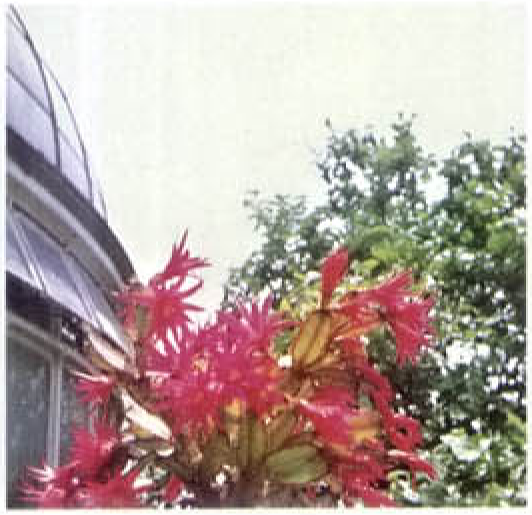
A pendent epiphyte with cylindrical stems and joints, up to ½in thick, and of varying lengths. The areoles are slightly woolly on the flowering joints, and the flowers appear from the side areoles. Diurnal, and flowering in late spring, the blooms are white, tipped pink, and ½–⅔in long. Fruits are white, flushed pink. Needs slight shade; normal cactus compost; minimum temperature 50°F. *Argentina (Tucuman).*

RHIPSAPHYLLOPSIS



RHIPSAPHYLLOPSIS x **ANDREA** (Knebel) Innes
Syn: *Rhipsalidopsis* x *andrea* hort.

A hybrid of *Rhipsalidopsis rosea* and *Rhipsalidopsis gaertneri*, the stems of the former being more apparent. Of pendent habit, these plants are well suited for hanging baskets, flowering in late spring. Requires good light, but not direct sun; normal cactus compost; minimum temperature 55°F.



RHIPSAPHYLLOPSIS x **GRAESERI** Werd.
Syn: *Rhipsalidopsis* x *graeseri* (Werd.) Moran

A hybrid of *Rhipsalidopsis gaertneri* and *R. rosea* with a similar stem formation. The generic title is derived from the now obsolete *Epiphyllopsis* and *Rhipsalidopsis*. Requirements are the same as for *Rhipsalidopsis rosea*.

SAMAIPATICEREUS

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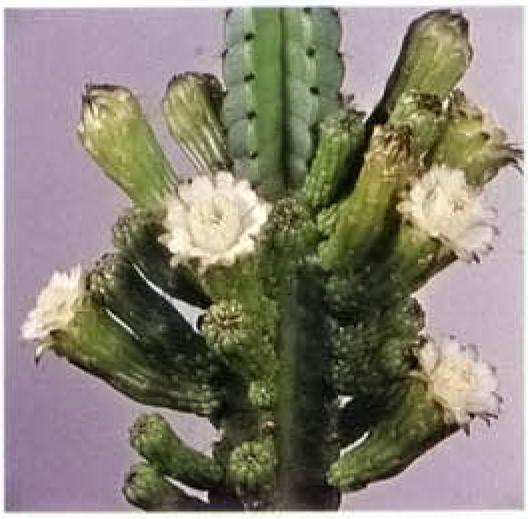
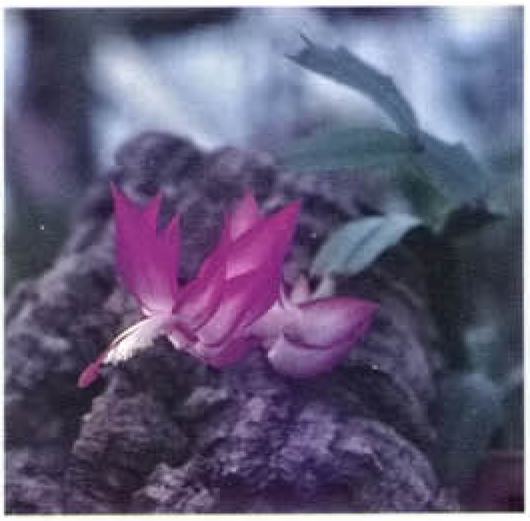


SAMAIPATICEREUS **CORROANUS** Card.

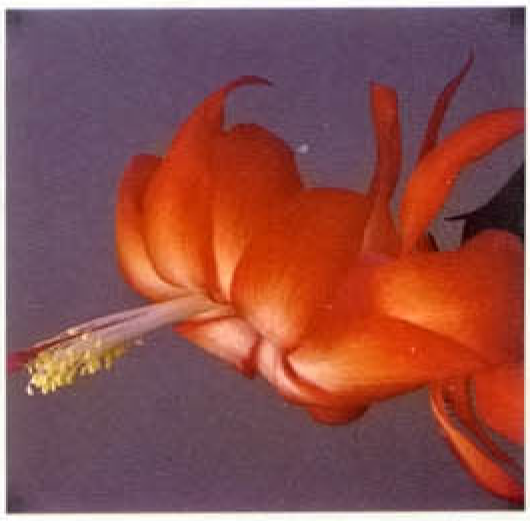
An erect, tree-like columnar species up to 11ft 5in high with dark green branches, about 6in in diameter. The branches are more slender, about 1½in wide. It has four to six deeply furrowed ribs with very prominent areoles composed of brownish felt. The spines are brownish, later grayish white, and about five in number, one to ½in long, the others ¹⁄₁₀in. Appearing in midsummer the white flowers have a bristly, scaly green tube up to 2in long, and are nocturnal. Requires full sun; normal cactus compost; minimum temperature 55°F. *Bolivia*

SCHLUMBERGERA



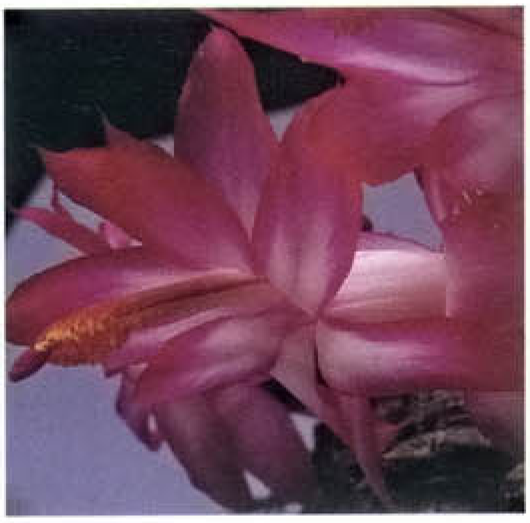
SCHLUMBERGERA **Sp. nova 'Adda Abendroth'**

A new introduction of recent years, this species was discovered by the late Mrs Adda Abendroth in deep forested areas growing as an epiphyte in trees. The zygomorphic flower, 2–3in long, appears by day in late winter or early spring. The rich deep rose-magenta petals with a white throat makes a unique and beautiful plant. Requires semi-shade; a slightly acid, porous compost; minimum temperature 55°F. *Brazil (Organ Mountains).*



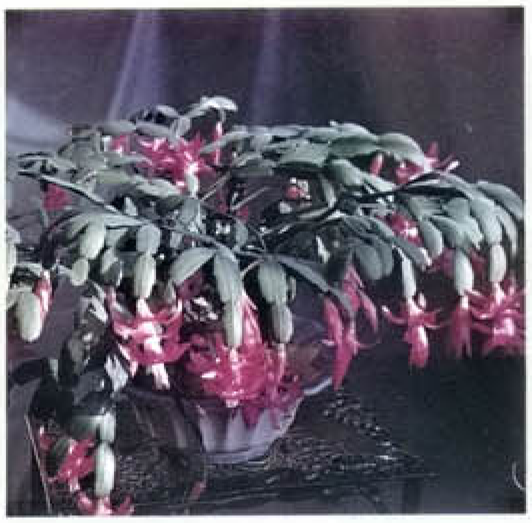
SCHLUMBERGERA **cv. 'Bristol Amber'** McMillan

One of the results achieved by A. J. S. McMillan of Bristol, England. The amber-colored petals are enhanced by the paler throat. It flowers in early winter. Minimum temperature at flowering time 59°F.



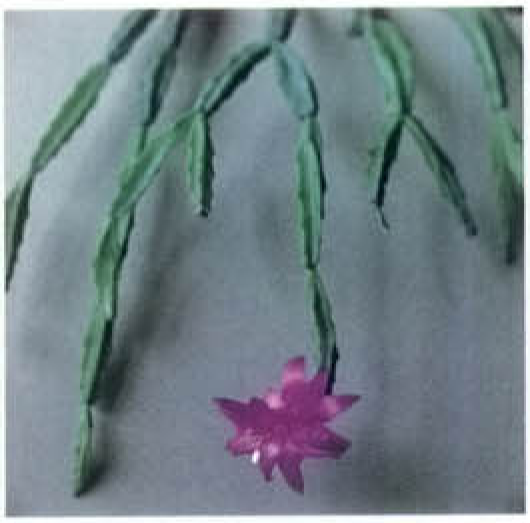
SCHLUMBERGERA **cv. 'Bristol Queen'** McMillan

A fine multi-colored cultivar of rich magenta and white, it is very free flowering during late autumn and early winter. Careful watering is essential during the flowering period. Minimum temperature at flowering time 59°F.



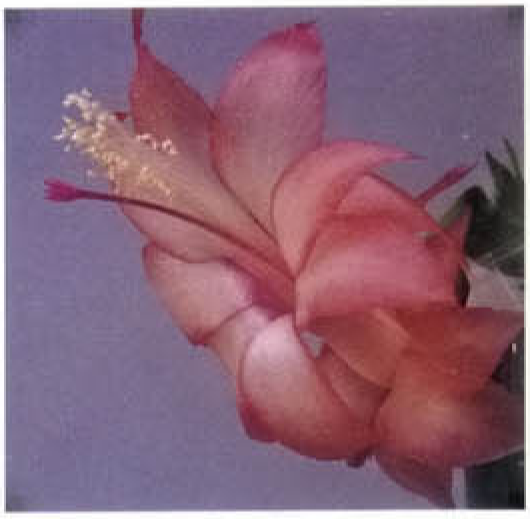
SCHLUMBERGERA **x BUCKLEYI** Hunt
Syn: *Epiphyllum bridgesii* Lem.; *Schlumbergera x bridgesii* (Lem.) Löefgr.

This is the popular Christmas Cactus which is of hybrid origin. The stems are composed of flat, oval joints or segments arranged like links, each ¾–2in long, ⅔–¾in wide, and notched along both margins. The flowers are zygomorphic, bright red and up to 3in long, appearing by day in late autumn and winter from the areoles at the tips of the uppermost segments. Requires filtered light; a slightly acid, but porous cactus compost; minimum temperature 55°F.



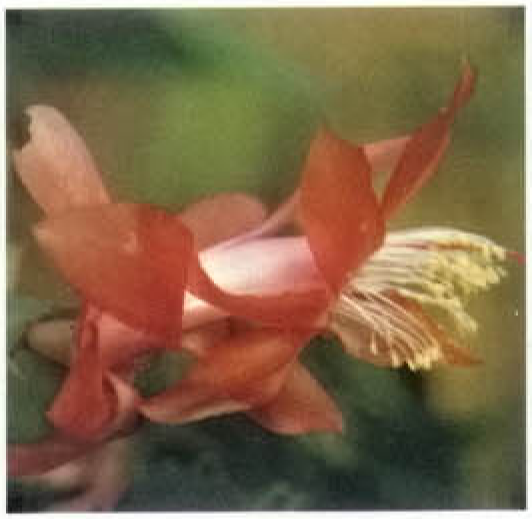
SCHLUMBERGERA **cv. 'Exotica'** Barthlott & Rauh

A hybrid between *Schlumbergera truncata* and *Schlumbergera opuntioides*, produced in California. While the stem growth becomes elongated, the flowers closely resemble those of *S. truncata*. Ideal for hanging baskets. Requires filtered light; a slightly acid, but porous cactus compost; minimum temperature 55°F.



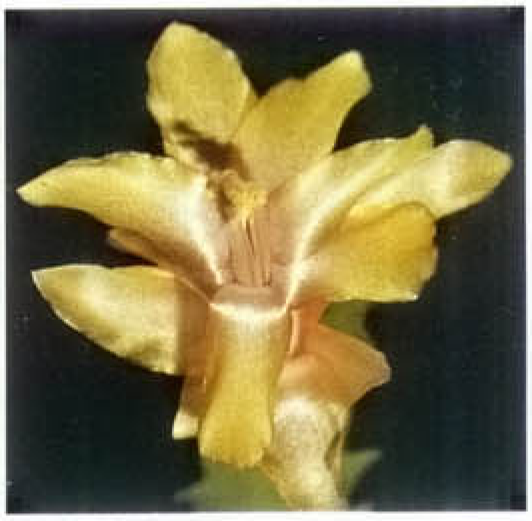
SCHLUMBERGERA **cv. 'Bristol Rose'** McMillan

A choice product of the skills of A. J. S. McMillan. The emphasis is on the pinkish-rose tints edging the white and pinkish centers of the petals. It flowers in early winter when careful watering is necessary; minimum temperature at this time 59°F.



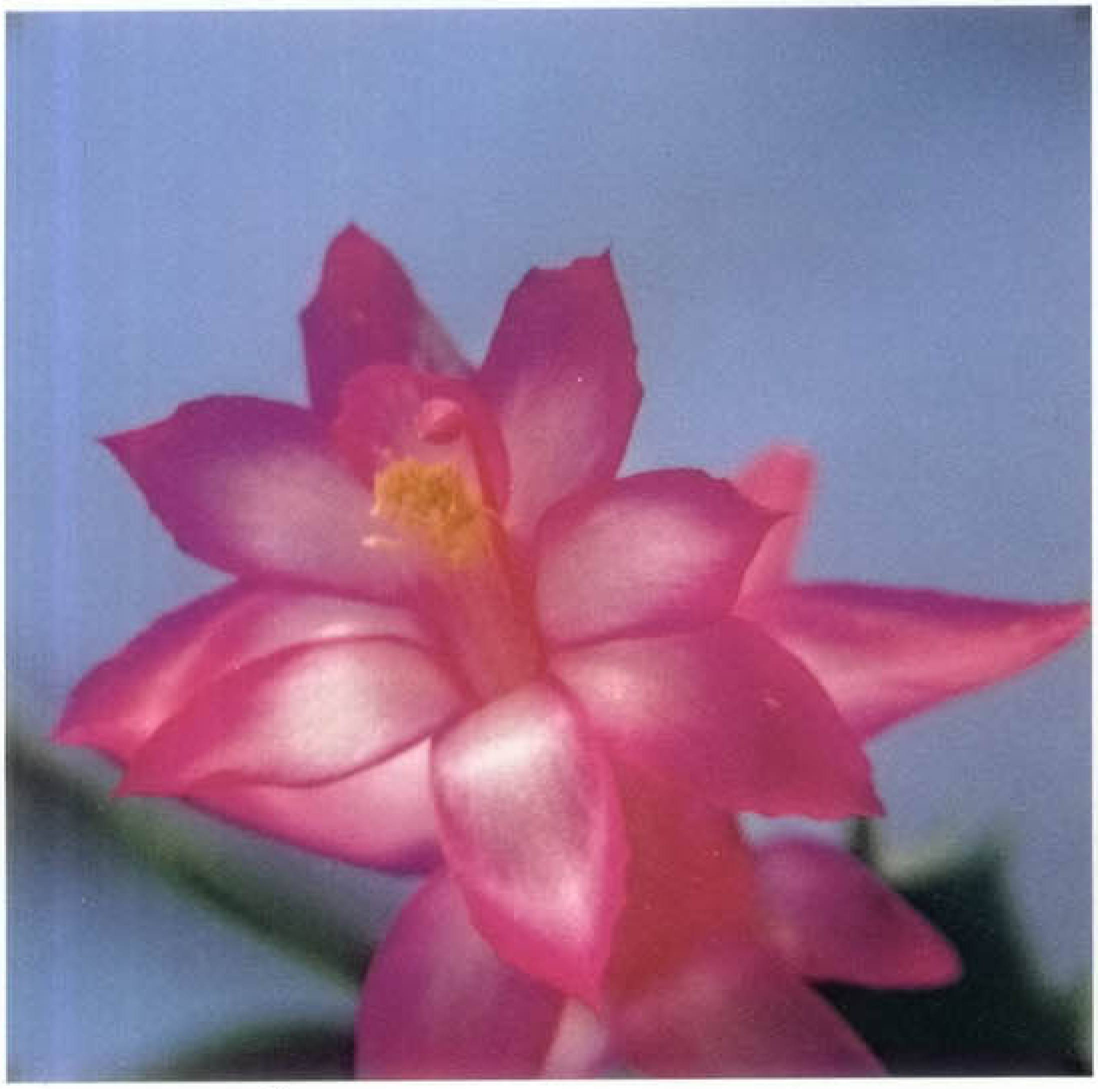
SCHLUMBERGERA **cv. 'Christmas Cheer'**

This cultivar is of Dutch origin. The orange-red petals, the red style, and creamy-white stamens with scarlet stigma provide an interesting color-change. Requires filtered light; a slightly acid, but porous cactus compost; minimum temperature 55°F.



SCHLUMBERGERA **cv. 'Gold Charm'**

A cultivar produced in California, and possibly the best yellow-flowered form available. A temperature in excess of 55°F is necessary to maintain the deep coloring. Requires filtered light; a slightly acid, but porous cactus compost; minimum temperature 55°F.



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SCHLUMBERGERA **cv. 'Lilac Beauty'** Innes

Produced in the UK. Its parentage is *Schlumbergera truncata* x *Schlumbergera truncata* var. *delicatus*. The coloring of both parents is very obvious. It flowers in late winter. Requires filtered light; a slightly acid, but porous cactus compost; minimum temperature 55°F.

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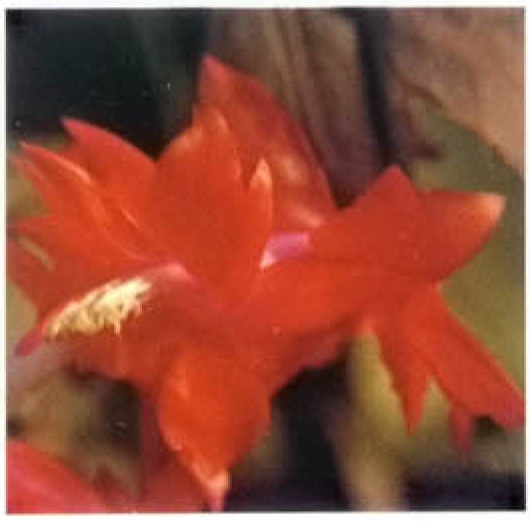
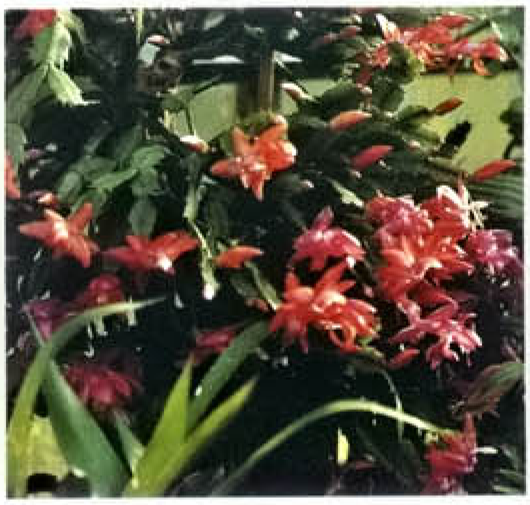


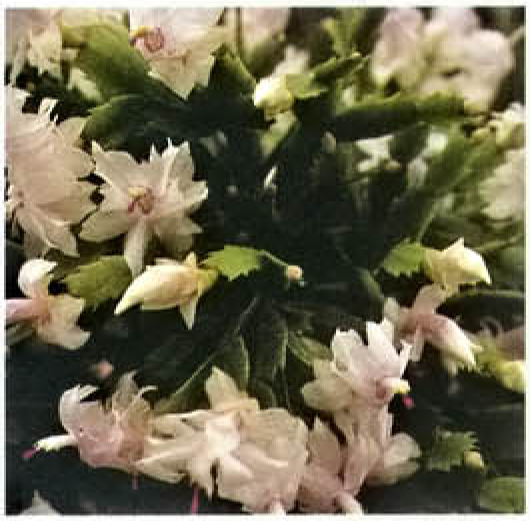
SCHLUMBERGERA **cv. 'Rudolf Zenneck'**

A cultivar of German origin – parentage unknown. Requires filtered light; a slightly acid, but porous cactus compost; minimum temperature 55°F.



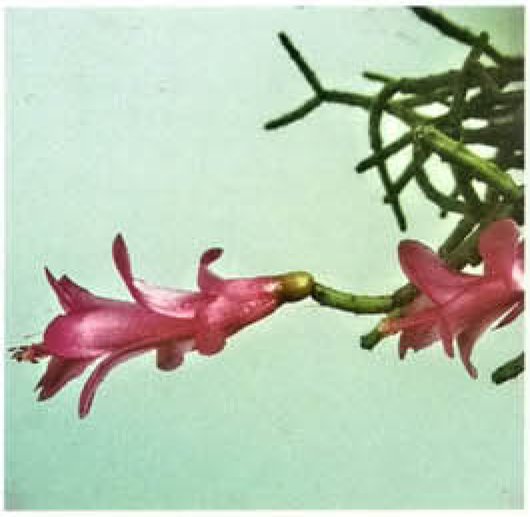
SCHLUMBERGERA **cv. 'Westland'**

A cultivar of Dutch production. Flowers are generally smaller; the varying shades of red in the petals with the white throat provides a colorful display in late winter to very early spring. Requires filtered light; a slightly acid, but porous cactus compost; minimum temperature 55°F.



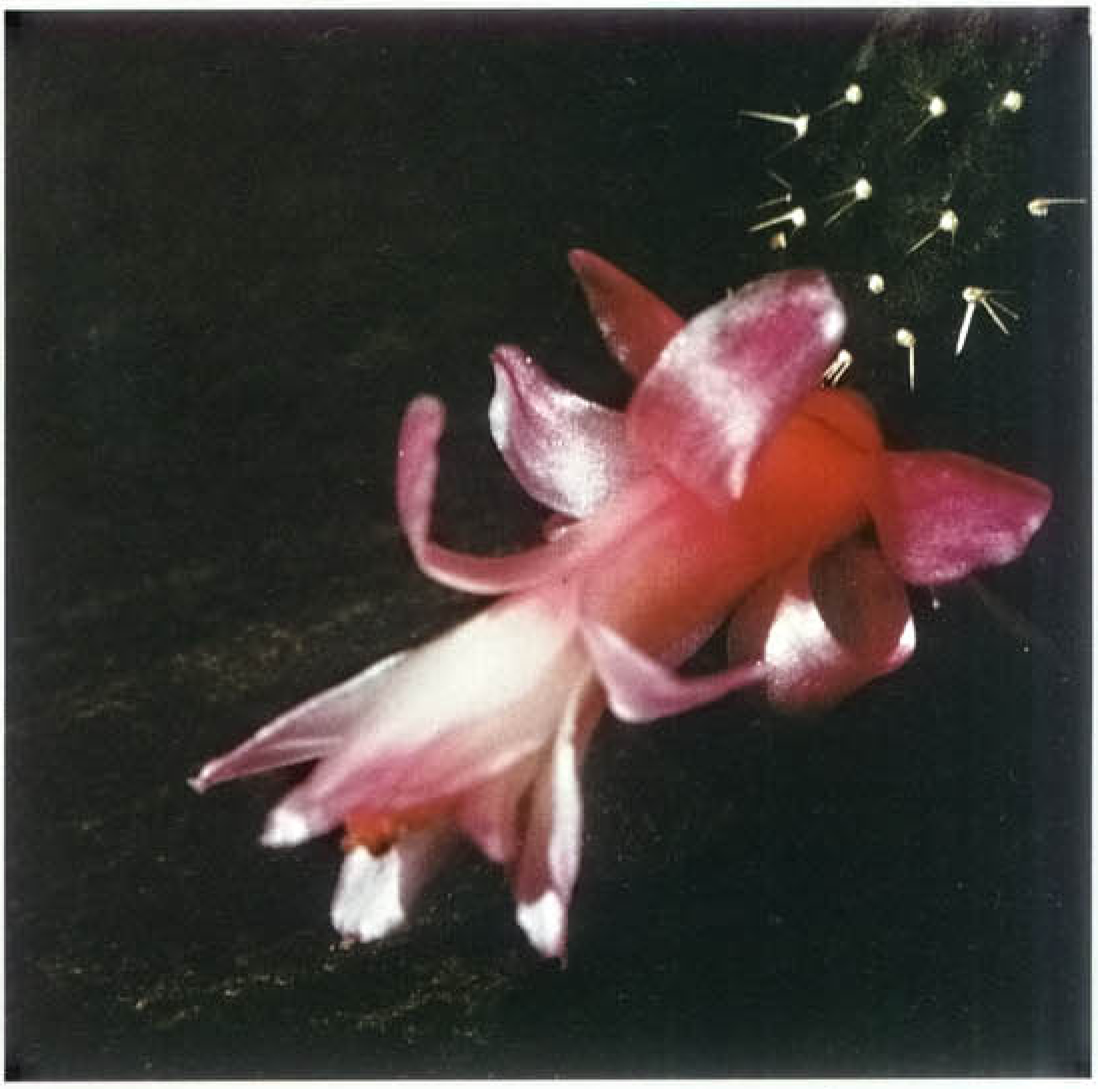
SCHLUMBERGERA **cv. 'White Christmas'**

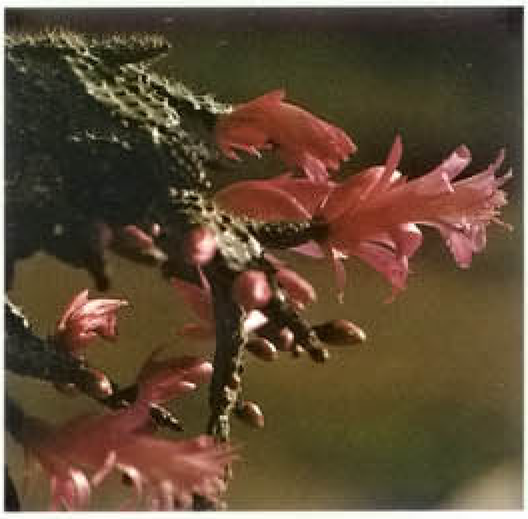
A beautiful cultivar developed in California. It is a prolific-flowering plant bearing a close resemblance to *Schlumbergera truncata* var. *delicatus*; but generally smaller and carrying white blooms. Requires filtered light; a slightly acid, but porous cactus compost; minimum temperature 55°F.



SCHLUMBERGERA **OBTUSANGULA** (K. Sch.) D. R. Hunt
Syn: *Epiphyllanthus obtusangulus* (K. Sch.) Berger

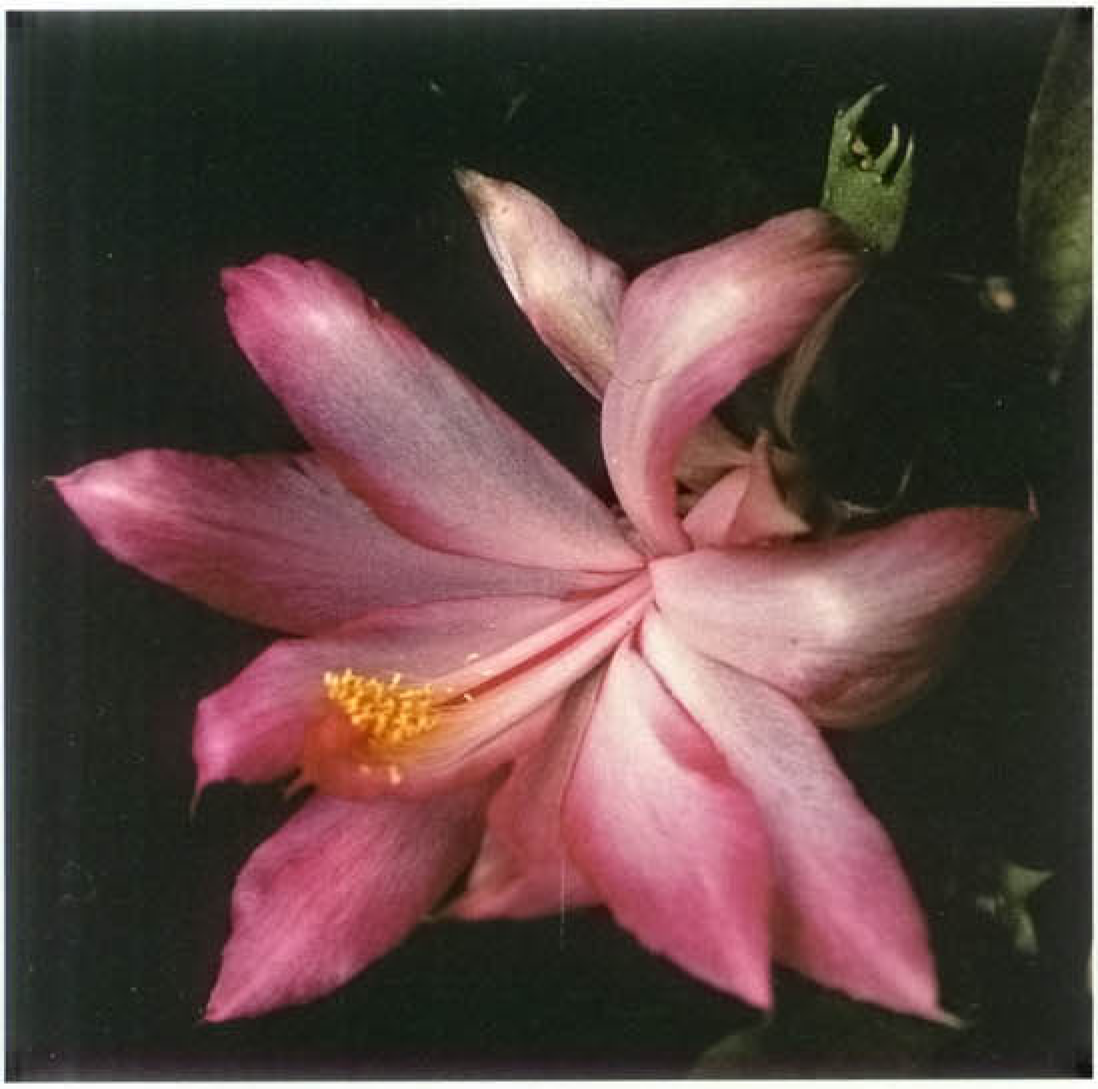
An epiphytic species with small oval-shaped joints 1–1½in long, ½–¾in broad. These are thick and flat and covered with many grayish areoles on both surfaces. The areoles often have one or two whitish bristles which usually soon fall. Flowering by day in late spring, the flowers are zygomorphic, a purplish violet color and 1½–1¾in long. Requires slight shade; normal cactus compost; minimum temperature 55°F. *Brazil (Itatiay-Gebirge).*





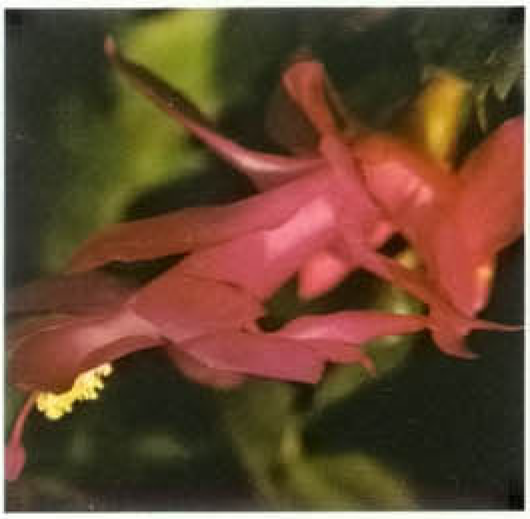
SCHLUMBERGERA **OPUNTIOIDES** (Löefgr. & Dusén) D. R. Hunt
Syn: *Epiphyllum opuntioides* Löefgr. & Dusén; *Epiphyllanthus obovatus* (Engelm.) Br. & R.

Stems consist of segments 1–2½in long, ½–¾in wide, thick, fleshy, and deep green in color. They are covered with white areoles with minute spines. Day flowering in late spring; these are zygomorphic, pinkish purple in color, and about 1¾in long. A brief dry period after flowering is advisable. Requires partial shade; normal cactus compost; minimum temperature 55°F. *Brazil (Minas Gerais).*



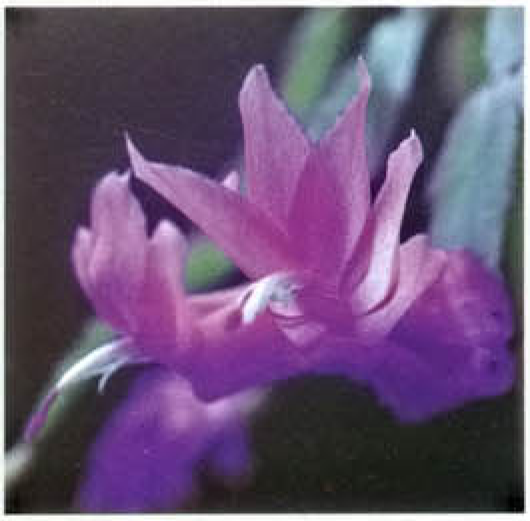
SCHLUMBERGERA **ORSSICHIANA** Barthlott & McMillan

A fascinating epiphyte with pendant stems of flattened segments or joints, each up to 2½in long, 1½in wide. The margins have two to three prominent teeth with areoles set in the angles. Daytime flowers are produced from the tips of terminal joints in late winter and also in late summer; these are zygomorphic, up to 3½in long, 3¼–3½in across, and are white with reddish margins to the petals. Requires filtered light; a porous acid compost; minimum temperature 55°F. *Brazil (Serra do Mar).*



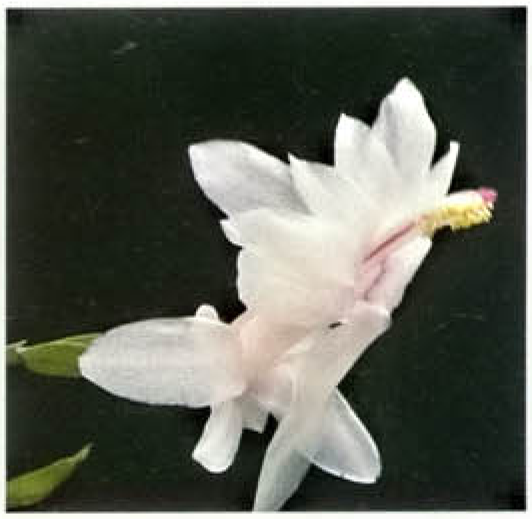
SCHLUMBERGERA **TRUNCATA** (Haw.) Moran
Syn: *Zygocactus truncatus* (Haw.) K. Sch.

The parent of many attractive cultivars. It is a bright-green pendant epiphytic species from forest regions with linked joints, each 1½–2in long, ⅔–1in broad and flat. The margins have two to four teeth on either side and the areoles have a few fine bristles. Flowers are deep pink or red, zygomorphic, and up to 3¼in long, blooming by day in winter. Warmth plus humidity needed. Requires partial shade; an enriched, fairly acid, permeable compost; minimum temperature 55°F. *Brazil (Rio de Janeiro).*



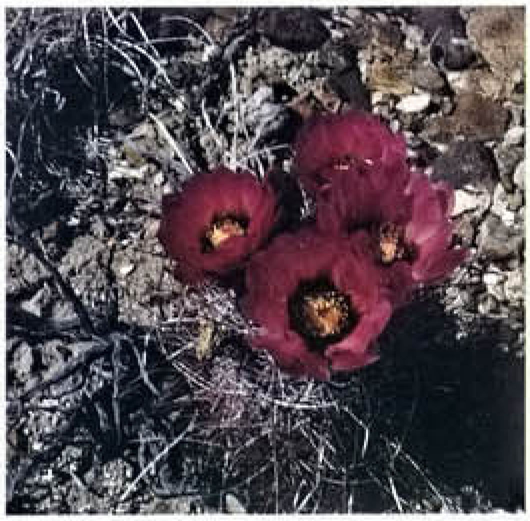
SCHLUMBERGERA **TRUNCATA var. CRENATUS** Borg
Syn: *Zygocactus truncatus* var. *crenatus* Borg

Similar to the species, but with grayish-green joints up to 2½in long, ⅔–1in broad, with two to four crenate teeth on either side. The areoles have one or two minute white bristles. Flowers appear in winter, and are diurnal, pinkish violet in color. Requirements are the same as for the species. *Brazil (Rio de Janeiro).*



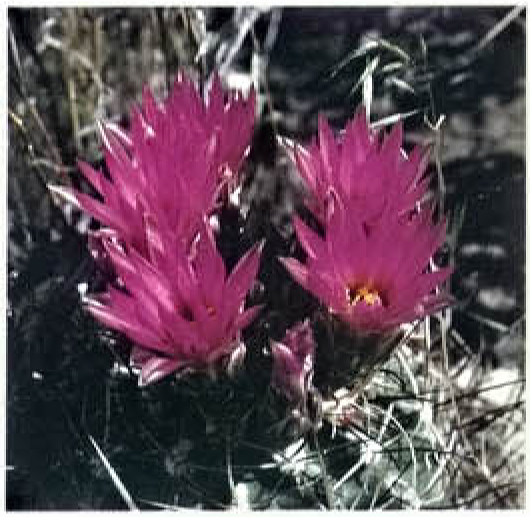
SCHLUMBERGERA **TRUNCATA var. DELICATUS** (N. E. Br.) Moran
Syn: *Zygocactus truncatus* var. *delicatus* N. E. Br.; *Epiphyllum delicatum* N. E. Br.

Plants are more erect than the species. The joints are more slender and up to 3in long, dull-green in color, and with three to four very prominent teeth on each side. Flowers appear in daytime in late autumn, and are zygomorphic; they open to pure white with a rose-pink style, white stamens, and a crimson stigma. Requirements are the same as for the species. *Brazil (Rio de Janeiro).*



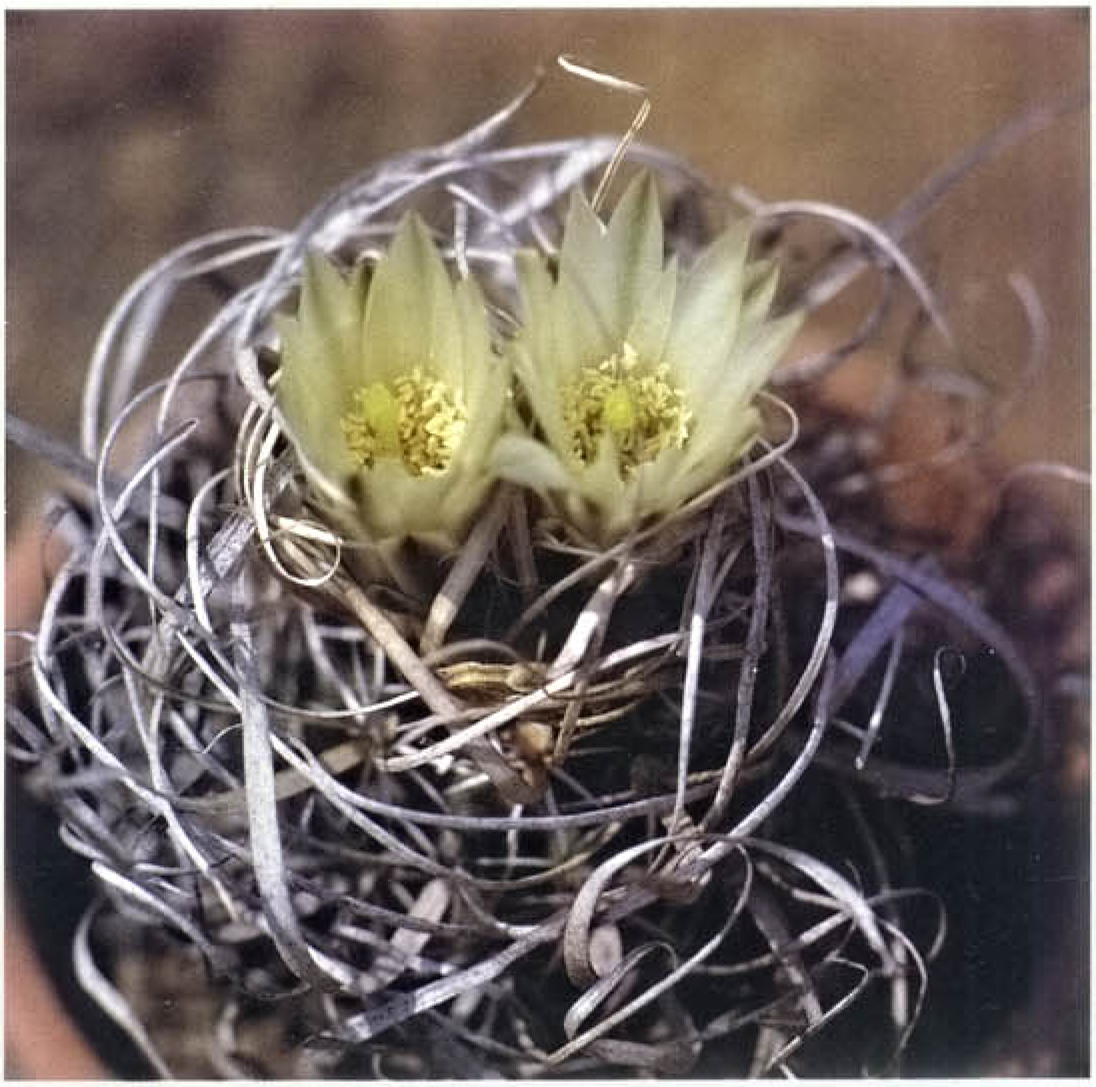
SCLEROCACTUS **BLAINEI** Welsh & Thorne
Syn: *Sclerocactus spinosior* var. *blainei*
(Welsh & Thorne) R. May

Usually solitary, a dark green, globose species 1½–2½in in diameter. The stem is tuberculate and the areoles more or less elliptical in shape, bearing eight to twelve white radial spines ½–⅔in long and six red or red-tipped white centrals, three of which are hooked, 1½–2½in long. Flowering in summer, and diurnal, the flowers are magenta, 1½in long and ¾in in diameter. Needs good light; normal cactus compost; minimum temperature 50°F. *USA (Nevada).*



SCLEROCACTUS **GLAUCUS** (K. Sch.) L. Benson
Syn: *Echinocactus glaucus* K. Sch.;
Pediocactus glaucus (K. Sch.) Arp

Grayish-green, almost globular plant, 2½in high, 2in wide with 12 tuberculate ribs, the tubercles protruding beyond. Areoles ⅔in apart with dense spination: six to eight whitish radials to ¾in long, one to three centrals 1in in length. Flowers diurnal, in summer, and pinkish purple, 1⅓in long to 2in across. Requires sunshine; normal cactus compost plus a little lime; minimum temperature 50°F. *USA (Navajoan Desert).*



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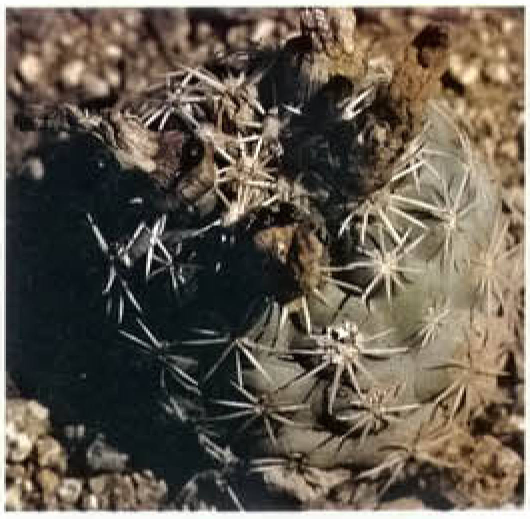
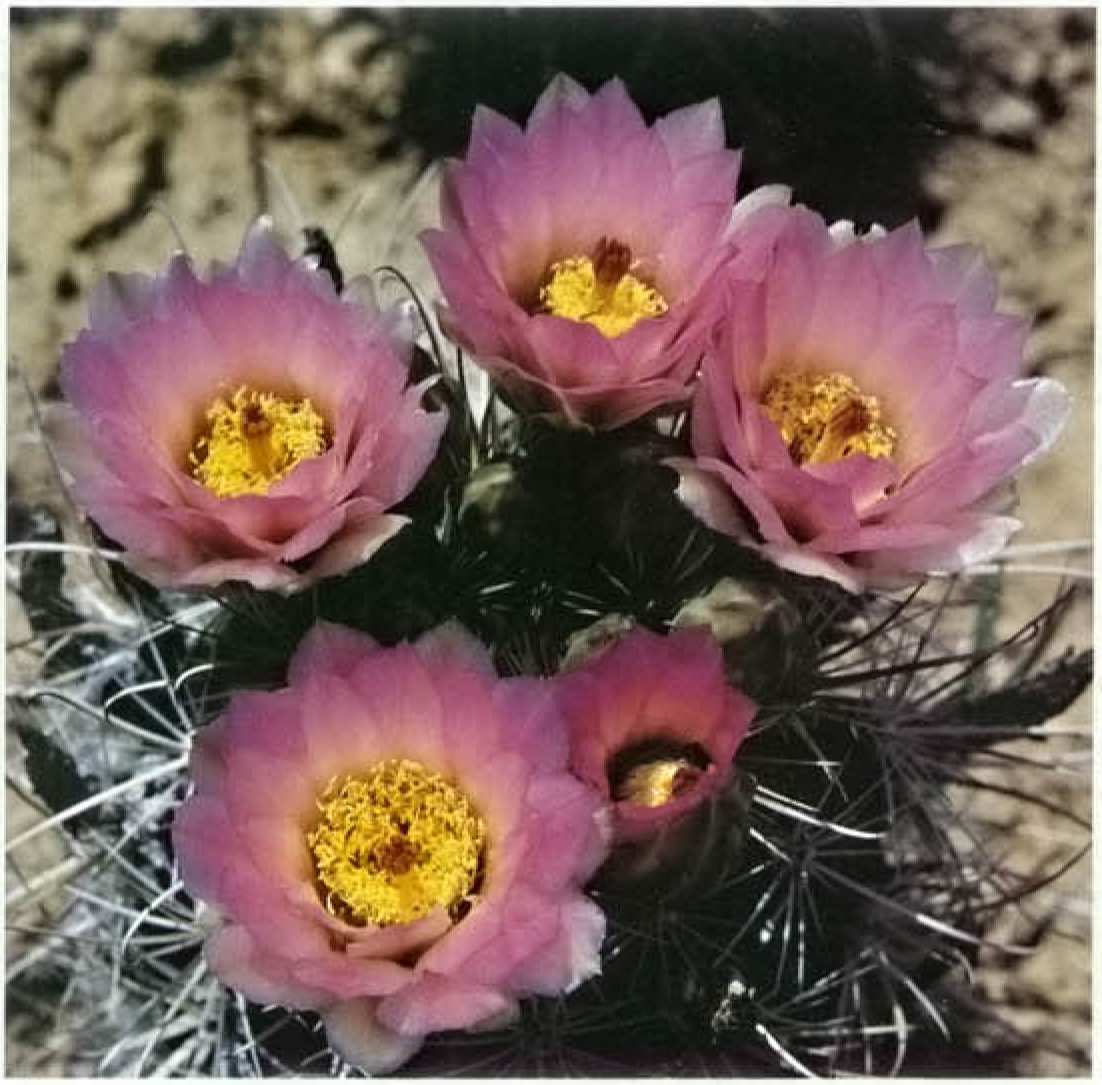
SCLEROCACTUS **PAPYRACANTHUS** (Engelm.) N. P. Taylor
Syn: *Echinocactus papyracanthus* Engelm.;
Toumeya papyracantha (Engelm.) Br. & R.

A short, cylindrical globose plant up to 3¼in tall, 1⅓in wide, either solitary or grouping. It has eight to thirteen ribs with prominent tubercles and areoles bearing five to nine whitish radial spines 1/10–⅕in long, and three to four flat, curving centrals ½–¾in in length. The flowers, diurnal in summer, are whitish, about ¾in long, and appear from the crown. It is best grafted. Requires very careful watering; a sunny position; normal cactus compost with a little lime added; minimum temperature 50°F. *USA (New Mexico, Arizona).*



SCLEROCACTUS **MESAE-VERDAE** (Boissevain ex Hill & Salisb.) L. Benson
Syn: *Coloradoa mesae-verdae* Boissevain ex Hill & Salisb.

Small, usually solitary, grayish-green plants 2–2½in high, 3¼–3½in wide. There are 13–17 ribs with brownish-gray areoles bearing eight to ten radial spines up to ½in long, and rarely one central. Flowers are diurnal, in summer, and 1½in across with creamy-yellow petals and purplish-brown sepals. Requires very careful watering; good light; enriched porous compost; minimum temperature 45°F. *USA (Colorado).*



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SCLEROCACTUS **PARVIFLORUS** Clov. & Jott.

A cylindrical plant up to 1½ft tall, 3½in wide, but usually remaining globular during the earlier years. The stem is bluish-green and it has 13 ribs with whitish areoles set on prominent tubercles. There are nine to fifteen grayish radial spines up to 1in long and one to three centrals to 2½in in length. The pinkish purple flowers, which are diurnal, in mid-summer, are 1in long and ¾in across. Requires a sunny bright position, which is essential; normal cactus compost with lime added; minimum temperature 50°F. *USA (Arizona).*

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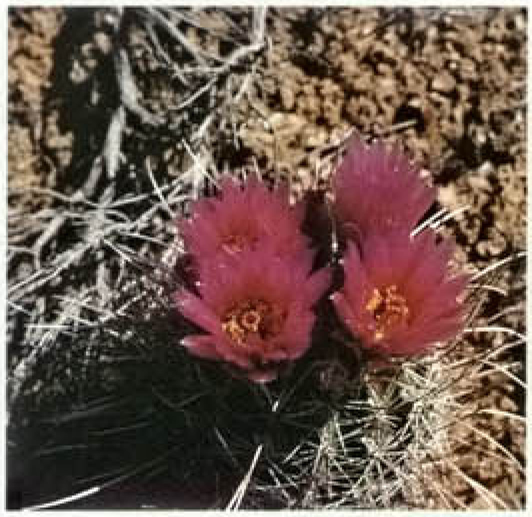

SCLEROCACTUS **PARVIFLORUS var. INTERMEDIUS** (Peebles) Woodruff & L. Benson
Syn: *Sclerocactus intermedius* Peebles

Very similar to the species in most respects, but differing principally in having longer flowers, up to 2in, which only open in bright sunlight. Requirements are the same as for the species. *USA (Arizona).*

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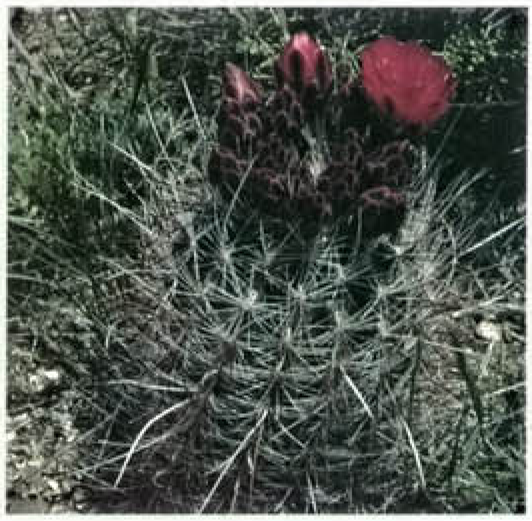

SCLEROCACTUS **POLYANCISTRUS** (Engelm. & Bigelow) Br. & R.
Syn: *Pediocactus polyancistrus* (Engelm. & Bigelow) Arp

A solitary plant, oval or cylindrical, 3¼–8in tall, 2½–4in in diameter with a spiny, woolly crown. There are 13–17 slightly tuberculate ribs and the areoles bear white-tipped brown spines, about 20 stiff, curved radials up to 1¾in long, and 10 curved or straight centrals to 4¾in long. Flowers appear in summer and are diurnal, rose pink or rarely white, and up to 2¼in long. Needs sun; normal cactus compost; minimum temperature 50°F. *USA (Nevada, California).*

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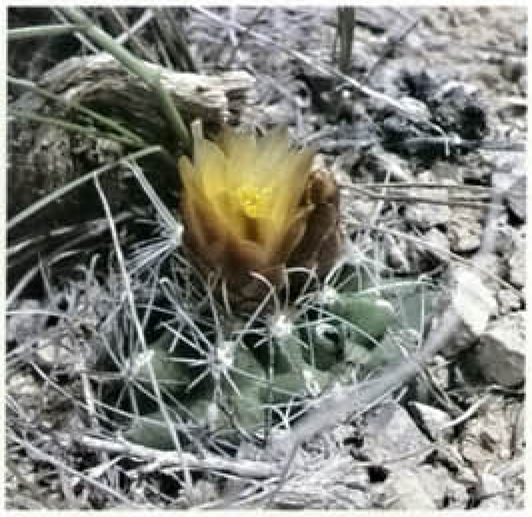

SCLEROCACTUS **PUBISPINUS** (Engelm.) L. Benson

The stems of this species are more or less globose, grayish-green, and usually 1½–2½in in diameter with prominent tuberculate ribs. Areoles bear about eight white, brown-tipped radial spines up to ¾in long and four centrals about 1in long, the lower hooked and reddish, the upper whitish, and laterals brownish-red. Day flowering, in summer, the flowers are yellow, up to 1in long. Needs sun; normal cactus compost; minimum temperature best at 50°F. *USA (Utah, Nevada).*

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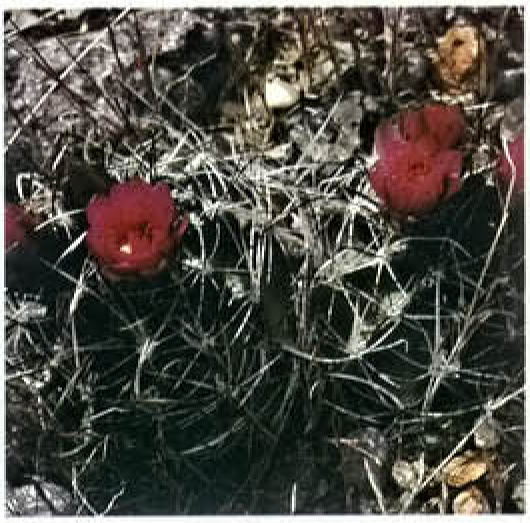

SCLEROCACTUS **PUBISPINUS var. SPINOSIOR** (Engelm.) Welsh

Syn: *Sclerocactus spinosior* (Engelm.) Woodruff & L. Benson

Dark grayish-green stems, globose to cylindrical, with ribs almost hidden by the high tubercles. The areoles have long spines, nine to eleven whitish radials, and one to five brownish centrals of varying lengths from ¾–2in. Flowering in summer, the reddish-violet flowers are diurnal and about 1½in long. Requirements are the same as for the species. *USA (Utah, Arizona).*

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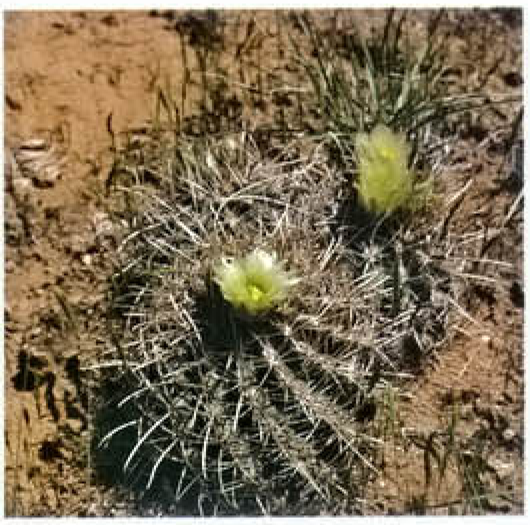

SCLEROCACTUS **TERRAE-CANYONAE** Heil

Dark grayish-green, stems from 3–4½in long, 3¼–4¼in wide with 11–13 ribs, sometimes spiraled. The areoles are woolly, and bear five to thirteen radial spines, one central hooked spine up to 3¼in long, one upper one up to 2in, and two to four peripheral centrals varying from ¾–2½in in length. Flowers are pale yellow and about 2in long and across. They appear by day, in summer. Needs sun; normal cactus compost; minimum temperature 50°F. *USA (Utah, Colorado, New Mexico).*

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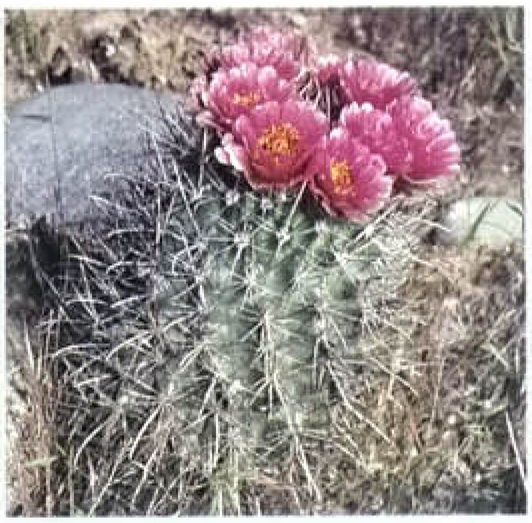

SCLEROCACTUS **WHIPPLEI var. HEILII** Castetter, Pierce & Schwerin

A globose to cylindrical species, 6–6¾in high, 4–6in in diameter. It has about 13 ribs, with tubercles set about ¾in apart. The downward-pointing areoles bear two to six brown-tipped white spines up to ¾in long and eight to nine brownish centrals. Day flowering in early summer, the rose-pink flowers are 1in long, 2in across. Needs sun; normal cactus compost; minimum temperature 50°F. *USA (New Mexico).*

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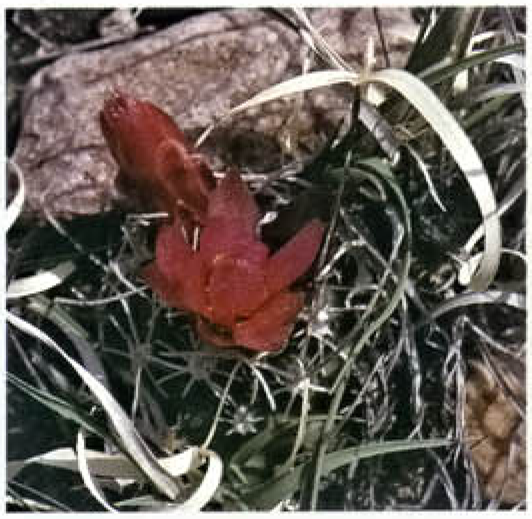

SCLEROCACTUS **SCHLESERI** Heil & Welsh

Syn: *Sclerocactus spinosior* var. *schleseri* (Heil & Welsh) R. May

A green globular plant, rarely offsetting, with stems 1–2in long and wide and tubercles ⅕–⅔in long. The areoles bear seven to nine brown-tipped white radial spines up to 1in long, one white upper central 2½in in length, and three curled or hooked dark red centrals ¾–2in long. Summer flowering, the magenta flowers are diurnal, and up to 1in long. Requires bright light; normal cactus compost; minimum temperature 50°F. *USA (Nevada).*

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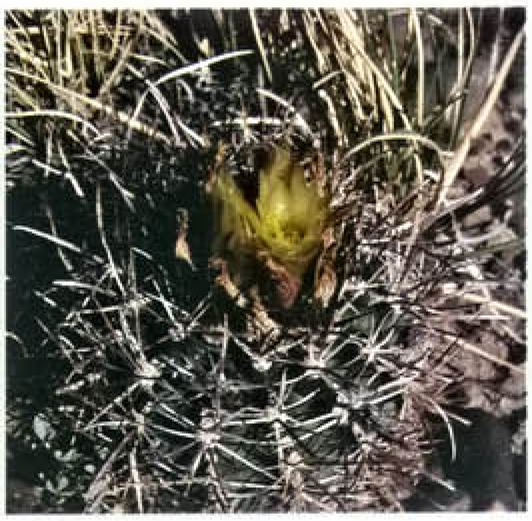

SCLEROCACTUS **WHIPPLEI** (Engelm. & Bigelow) Br. & R.

Syn: *Echinocactus whipplei* Engelm. & Bigelow

A globular species up to 3in high, about 3¼in wide. It has 13 ribs and the areoles bear eight to ten grayish-white radial spines and four centrals, the upper one up to 2in long, the lower hooked, to 1⅓in, and peripherals up to 2in. Day flowering in summer, the flowers are yellow, about 1in long and across. Requires good light; enriched compost; minimum temperature 50°F. *USA (Arizona, Utah, Colorado).*

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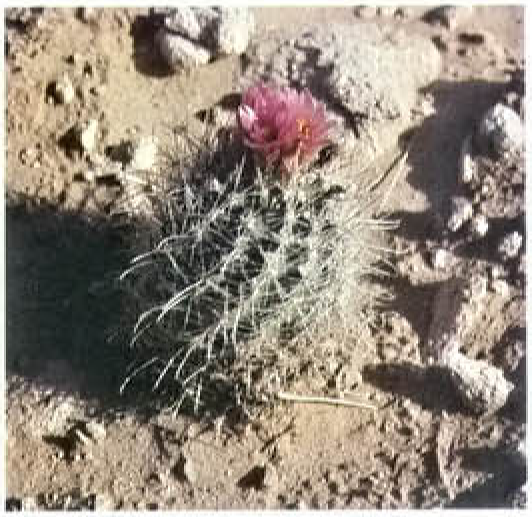

SCLEROCACTUS **WRIGHTIAE** L. Benson

Syn: *Pediocactus wrightiae* (L. Benson) G. K. Arp

A globose plant 2–3½in long, 2–3in wide with about 13 tuberculate ribs, the tubercles about ½in long. Areoles bear eight to ten white radial spines up to ½in long and four brownish centrals, ½–⅔in in length, the lower one curved and hooked. Flowers are about ¾in long and across, pale to deep lavender, and appear by day, in summer. Needs good light; normal cactus compost; minimum temperature 50°F. *USA (Utah).*

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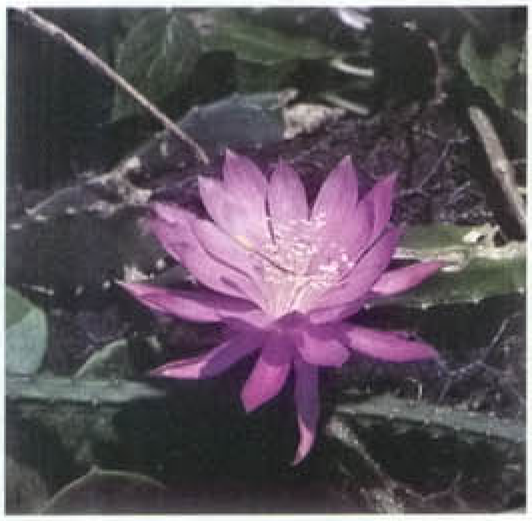

SELELIOCEREUS x MAYNARDAE (Paxton) Guill.

An inter-generic hybrid of *Selenicereus grandiflorus* and *Heliocereus speciosa*, originally described in 1847. It has clambering three- to five-angled stems up to 13ft in length, ⅔in thick, with brownish and almost spineless areoles. Flowers are diurnal in summer, about 4in long to 7in across when expanded, in shades of rose pink and a deeper red, often more of a pale violet red. Requires a position in filtered light; normal cactus compost; minimum temperature 59°F.

SELENICEREUS GRANDIFLORUS (Mill.) Br. & R.

Syn: *Cereus grandiflorus* Miller

A variable species with trailing or climbing stems up to 16ft long, ¾–1in thick. It has five to eight ribs and pale-yellowish woolly areoles bearing seven to eleven yellow spines which become gray. Flowering at night in summer, the blooms are fragrant, about 1ft long and 6in across, with broad, white petals and narrow, pale yellowish-brown and spreading sepals. Requires semi-shade; a rich porous compost; minimum temperature 59°F. *West Indies, Mexico.*

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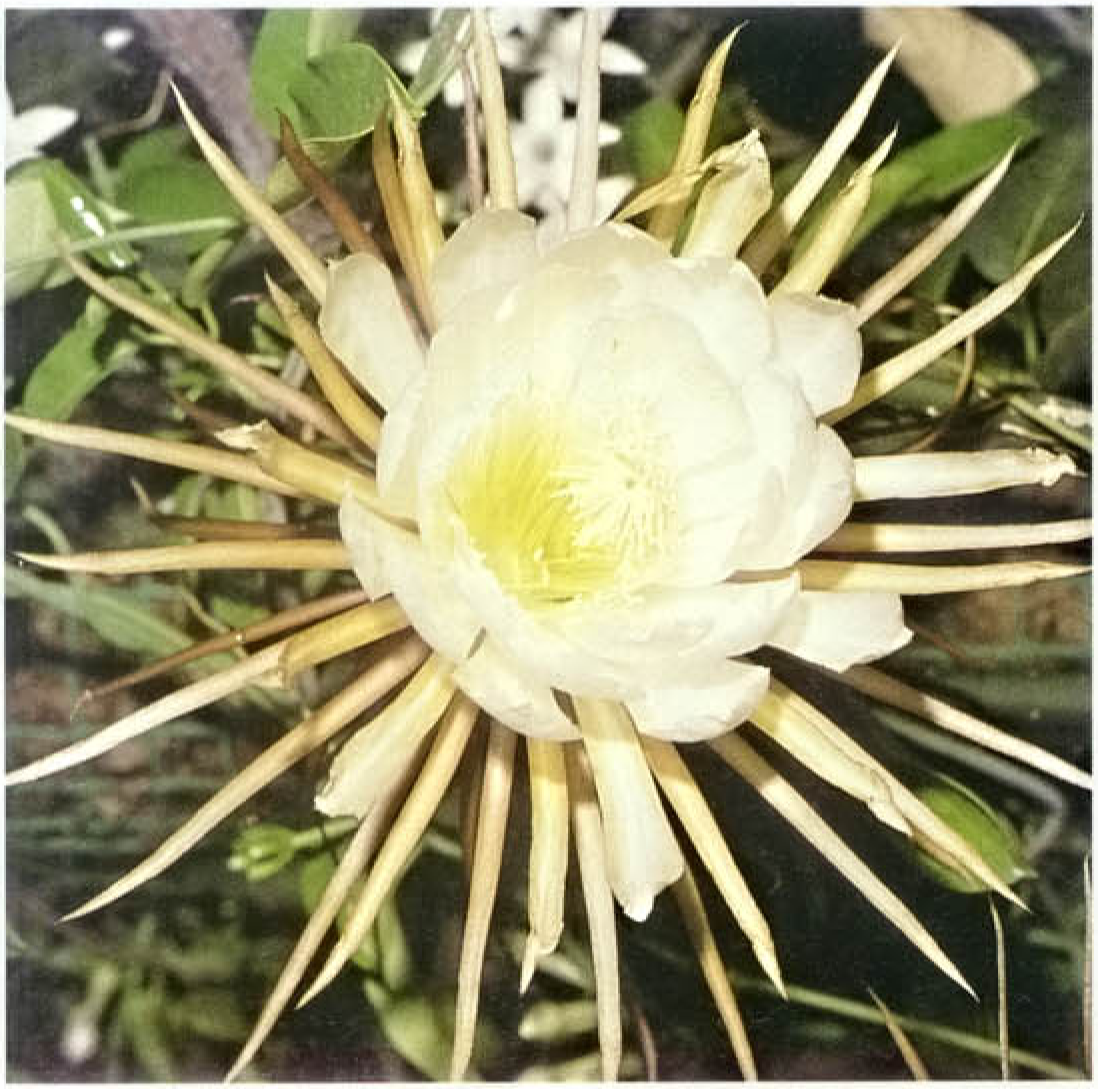
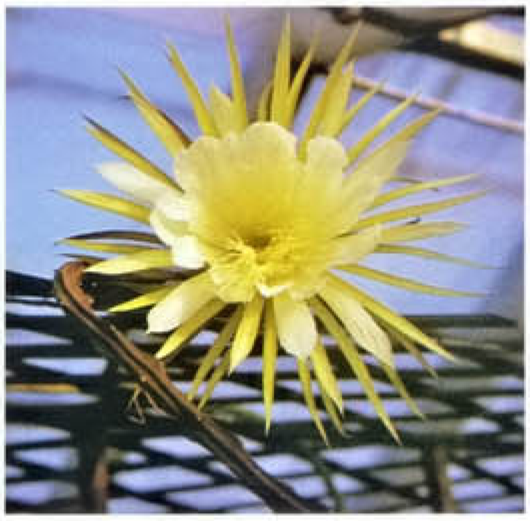
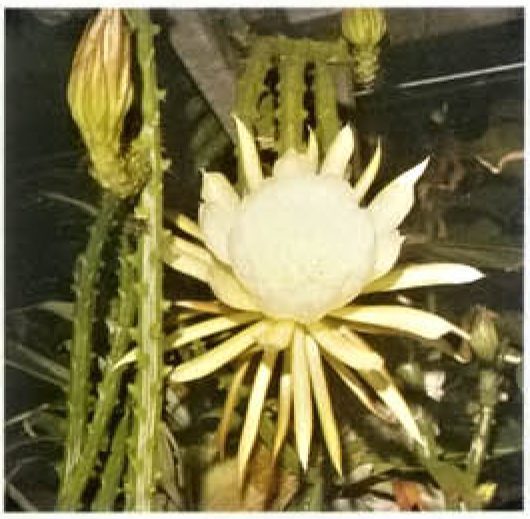




SELENICEREUS HALLENSIS (Weingt.) Weingt.

Syn: *Cereus hallensis* Weingt.

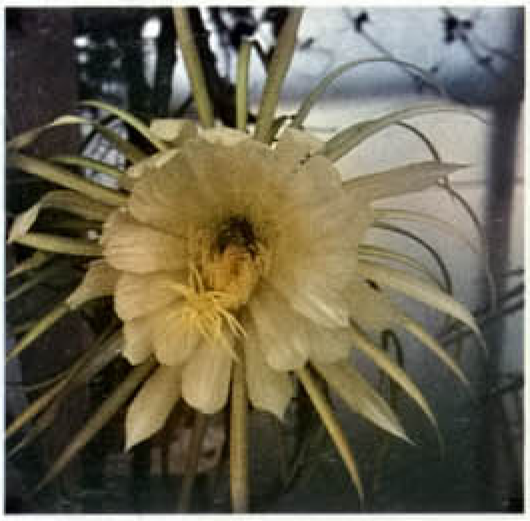
A pale-green climbing species with stems up to 10ft long, ⅔in thick. Five to six ribs and brown areoles on short prominences, often spineless, or have two to six thin, pale-brown spines up to ½in long. Fragrant flowers in summer, nocturnal, up to 1ft long, 11in across, with white or yellowish-white petals, and reddish or externally yellowish-red sepals. Requires shade; an open acid compost; minimum temperature 59°F. *Colombia.*



SELENICEREUS HAMATUS (Scheidw.) Br. & R.

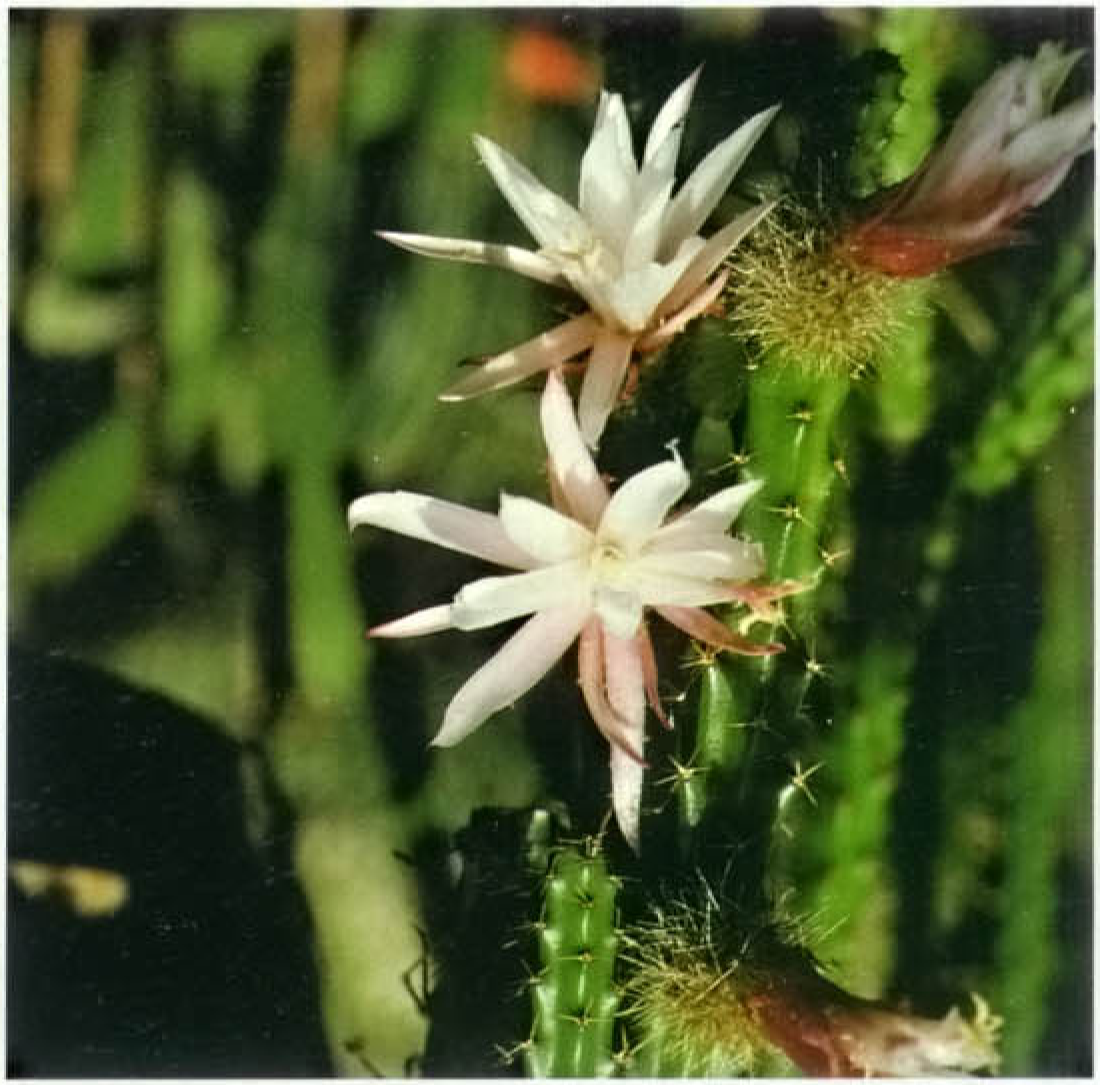
Syn: *Cereus hamatus* Scheidw.; *Selenicereus rostratus* (Lem.) Marsh.

A dark-green plant with three- to five-angled stems up to 13ft long, ¾in thick. Short spines grow from hooked tubercles. Fragrant flowers at night in summer, with white and yellowish petals in three series and greenish-yellow sepals in two series. Give semi-shade; porous acid compost; minimum temperature 59°F. *Mexico (Vera Cruz, Jalapa), West Indies.*



SELENICEREUS **HONDURENSIS** (K. Sch.) Br. & R.
Syn: *Cereus hondurensis* K. Sch.

An elongating, clambering species with trailing or climbing stems ¾in thick. It has seven to ten low ribs and areoles of dark wool with brown hairs and white bristles. The spines are whitish, ⅕in long. Flowers appear in summer, and are nocturnal, about 9in long, to 7in across, with creamy-white petals ⅖in wide and linear, yellowish-green, spreading sepals. Requires a position in filtered light; normal cactus compost; minimum temperature 64°F. *Honduras.*



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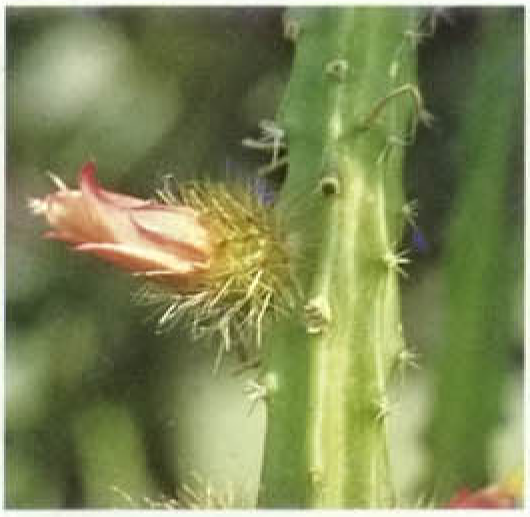

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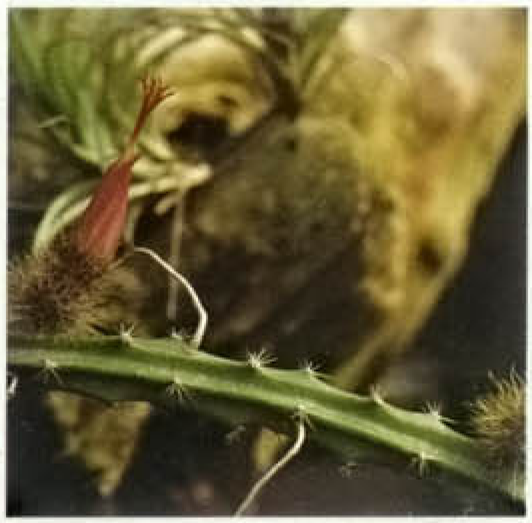
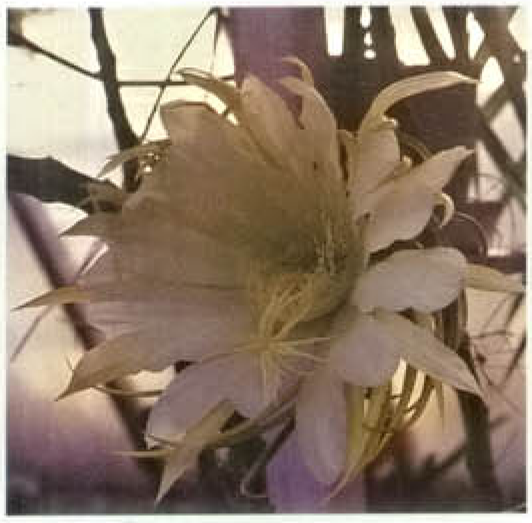


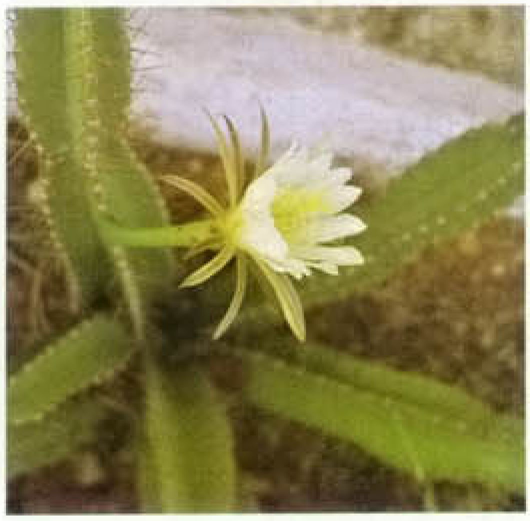
◀ SELENICEREUS **INNESII** Kimnach

A trailing species, stems up to 6½ft long, ½in thick. It has six ribs and woolly areoles with one or two thick and three to seven slender pale brown spines. It is unique within the *Cactaceae* as some plants bear only male flowers (left), others only female (below left), while on some plants there are normal flowers (above). Flowering by day in summer, the blooms are normally pinkish white and 1½–2in long, with extended petals up to 2½in across. Ideal for hanging baskets. Requires a position in filtered light; normal cactus compost; minimum temperature 59°F. *St Vincent (West Indies).*



SELENICEREUS **MACDONALDIAE** (Hook.) Br. & R.
Syn: *Cereus macdonaldiae* Hook.

A long-stemmed, trailing and climbing species. The stems are up to 26ft long, ⅔in thick, and are glossy green, often suffused purple. There are five to seven ribs with brown areoles set on prominent tubercles with a few short spines. Flowers, up to 1ft 2in long, 10in across, appear at night in summer. The inner petals are white or pale cream and the outer segments yellowish or reddish. Requires shade; an acid compost; minimum temperature 59°F. *Uruguay, Argentina.*

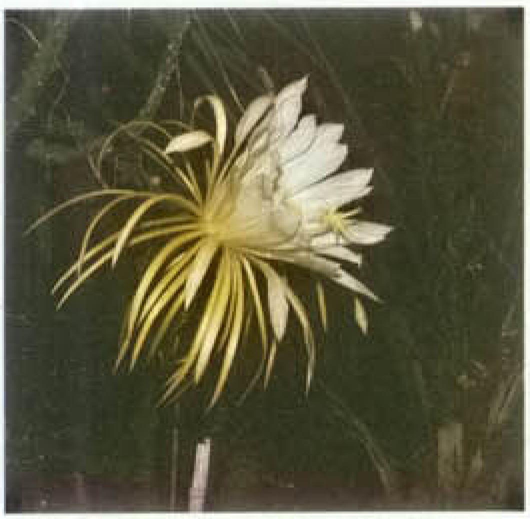


SELENICEREUS **TESTUDO** (Karw.) F. Buxb.
Syn: *Deamia testudo* Karw.

Remains better known as *Deamia*. It is an epiphytic clamberer, the stems composed of joints up to 10in long, varying in shape and three- to eight-angled, with aerial roots holding fast to the host tree. The areoles have bristly spines. Flowers appear in summer, and are diurnal, about 10in long, 6in across, with white petals and yellowish-green, widely spreading sepals. Requires humidity and semi-shade, which are essential; an open acid compost; minimum temperature 64°F. *Southern Mexico to Colombia.*

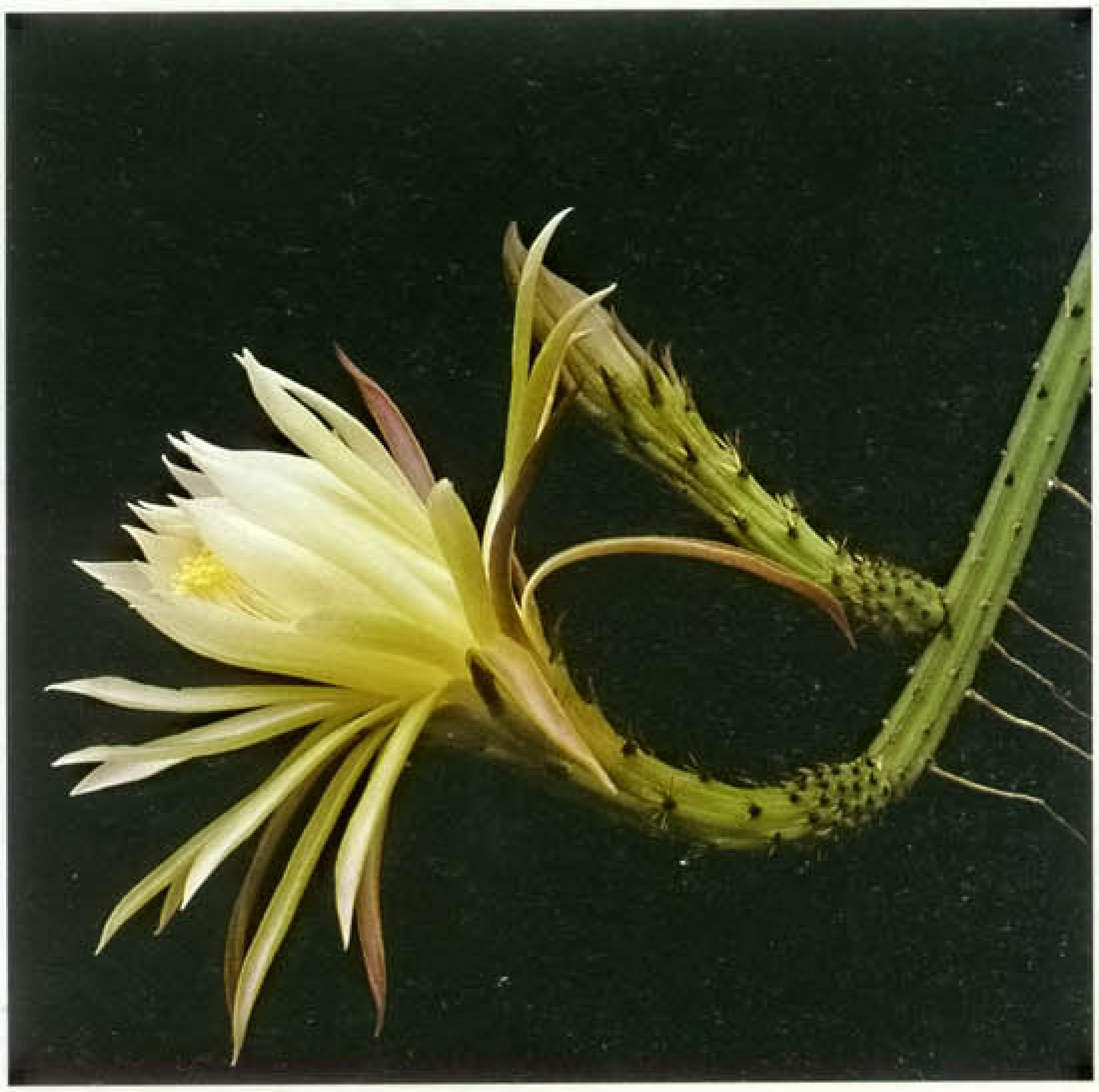
SELENICEREUS **WERCKLEI** (Weber) Br. & R.
Syn: *Cereus wercklei* Weber

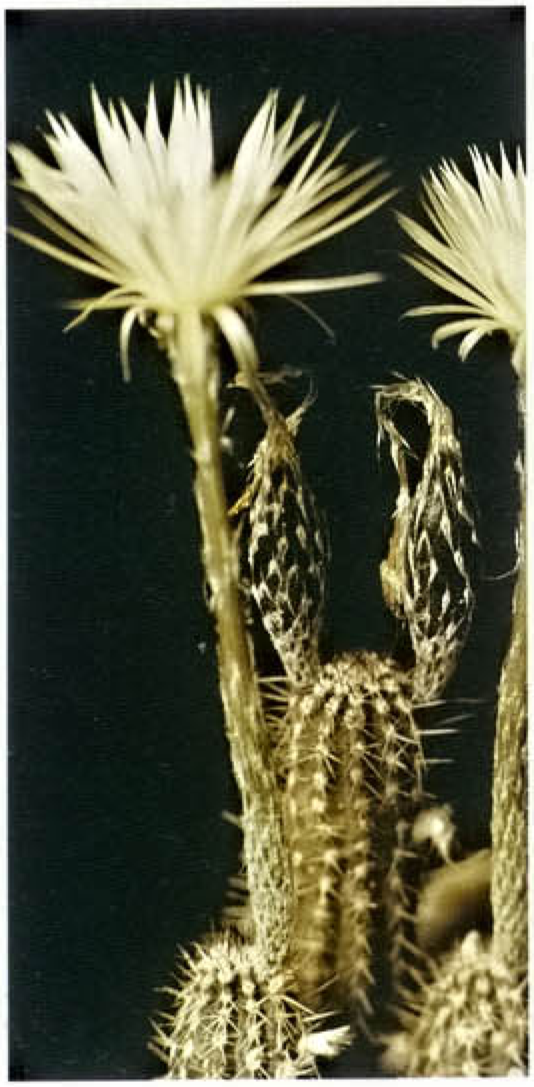
An uncommon epiphytic species growing on trees and rocks. The more or less cylindrical stem has about 12 very shallow ribs, 3–6½ft in length and about ½in thick and much branching; they are spineless. The white flowers, nocturnal, in summer, are about 4¾in long and across when fully expanded and have oblong petals and narrow, greenish-white sepals. Requires relative semi-shade and humidity; an acid compost; minimum temperature 64°F. *Costa Rica.*



SELENICEREUS **PTERANTHUS** (Link & Otto) Br. & R.
Syn: *Cereus nycticalus* Link

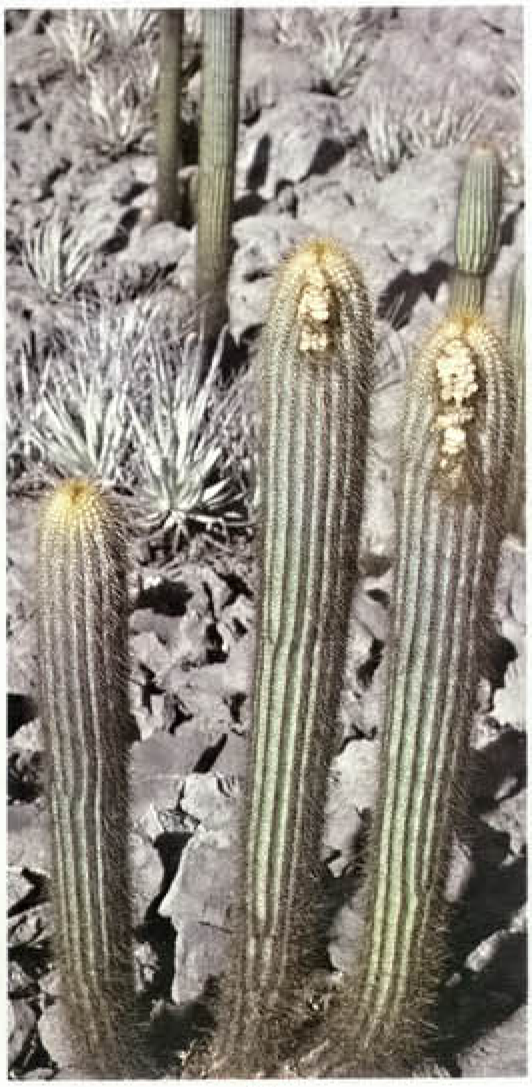
A remarkable plant with long purplish-green, four- to six-angled stems ¾–1½in thick, bearing areoles with whitish wool and short, thick spines about ⅕in long. Flowers are nocturnal, appearing in early summer; they are about 1ft long and little more across when fully expanded. The white or pale-cream petals are set like a funnel and the sepals are very slender and long, pale purple externally, and recurving. Requires shade; an acid compost; minimum temperature 64°F. *Mexico, Central America.*





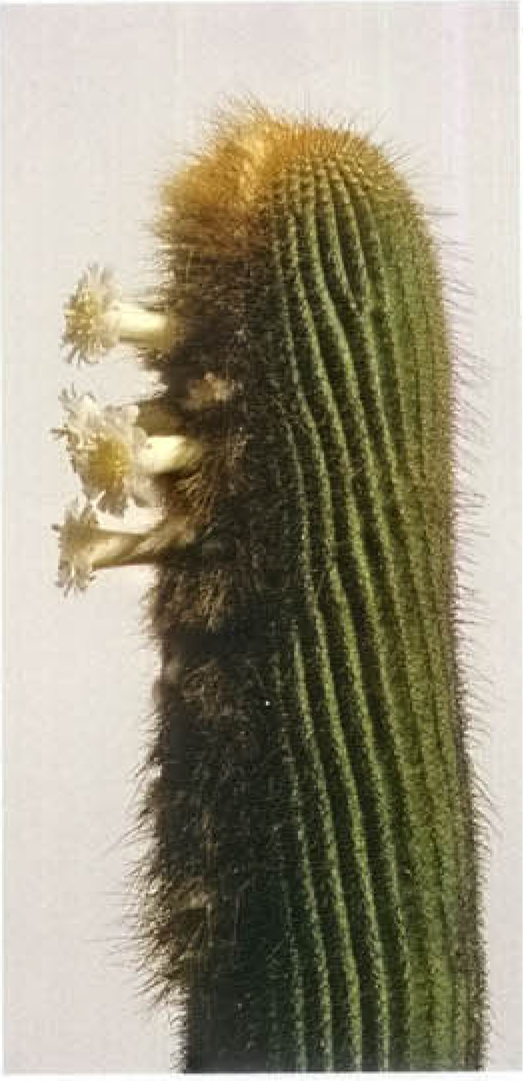
SETIECHINOPSIS **MIRABILIS** (Speg.) Dehaas.
Syn: *Arthrocereus mirabilis* (Speg.)
W. T. Marsh.; *Echinopsis mirabilis* Speg.

A small columnar plant with dark bluish-green stems 4–6in high, ¾–1in thick, rarely branching. It has about 12 ribs and white woolly areoles with nine to fourteen whitish radial spines and one brownish central up to ⅔in in length. Flowering in summer, the flowers are nocturnal and produced from the top of the stem. They are white and fragrant, shaped like a funnel and up to 4¾in long, 1–1½in across. Needs a bright location; normal cactus compost; minimum temperature 50°F. *Argentina.*



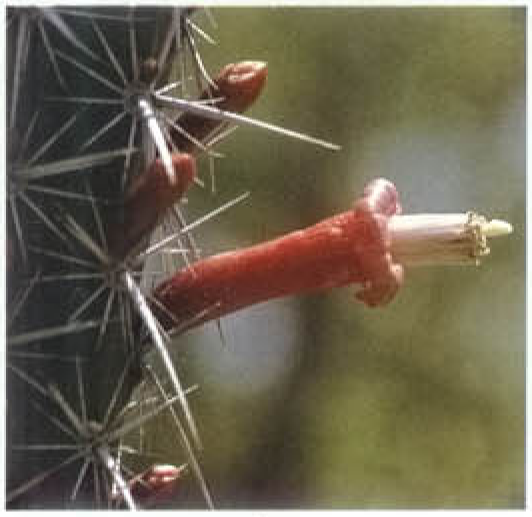
SICCOBACCATUS
DOLICHOSPERMATICUS (Buin. & Bred.) Braun & Esteves
Syn: *Austrocephalocereus dolichospermaticus* Buin. & Bred.

A cylindrical, erect species. The stems are up to 6½ft tall, 3¼in in diameter, with a brown bristly lateral cephalium. There are 30 ribs with oval woolly areoles bearing yellowish spines ⅓–1in in length. Nocturnal flowers appear in summer; these are whitish, pinkish externally and 1½in long, 1in across, the tube devoid of scales. Needs sun; normal cactus compost; minimum temperature 59°F. *Brazil (Bahia).*



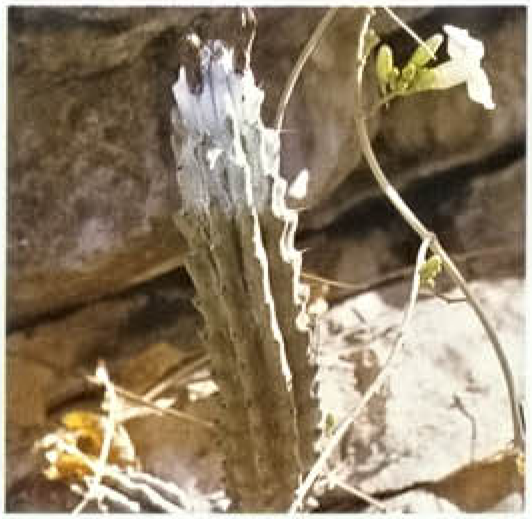
SICCOBACCATUS **ESTEVESII** Buin. & Bred.
Syn: *Austrocephalocereus estevesii* Buin. & Bred.

A tall, columnar plant, rarely branching, up to 20ft high, with green stems 6in thick. The lateral cephalium consists of creamy-white woolly hairs and red bristles. There are 37–42 ribs, and the brown or grayish areoles carry about 11 radial spines and four centrals, all dark gray, and varying from ⅕–¾in long. Flowers are nocturnal in summer, 1⅓in long and wide, and are white. Requires bright light; normal cactus compost; minimum temperature 59°F. *Brazil (Goias).*



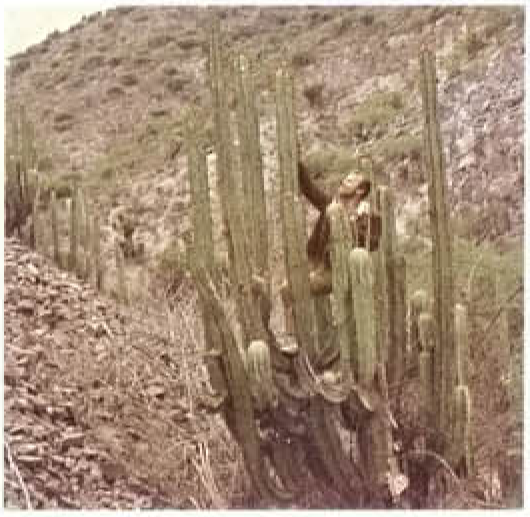
STENOCEREUS **ALAMOSENSIS** (Coult.)
A. Gibson & Horak
Syn: *Rathbunia alamosensis* (Coult.) Br. & R.;
Cereus alamosensis Coult.

A bush-like columnar plant with semi-erect or straggling stems 6½–13ft in length. In its habitat it is associated with tall scrub country. It has five to eight ribs encircling a stem up to 3¼in thick. The areoles appear at ¾–1in intervals, bearing about 12 whitish radial spines, ½–⅔in long, and one to four centrals up to 2in in length. Day flowering in summer, the flower is tubular becoming funnel-shaped, with brick-red, recurving petals and 1½–4in long. Requires slight shade; an open, fairly rich compost; minimum temperature 50°F. *Mexico (Alamos, Sonora).*



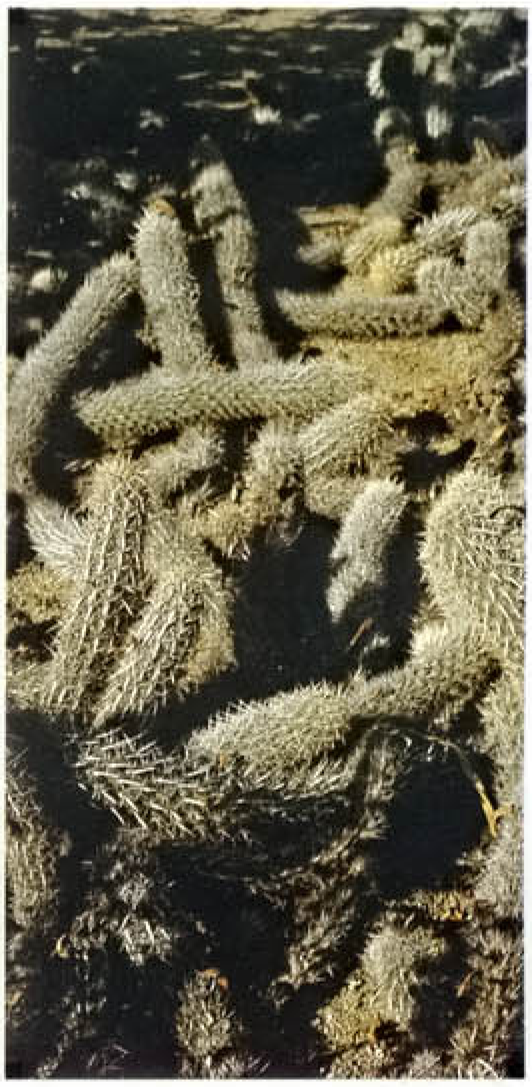
STENOCEREUS **BENECKEI** (Ehrenb.) Backeb.
Syn: *Lemaireocereus beneckei* (Ehrenb.)
Br. & R.; *Hertrichocereus beneckei* (Ehrenb.)
Backeb.

A columnar plant attaining 6½–10ft tall. Stems are grayish-green, coated with a white, powdery bloom especially towards the tips. Five to nine ribs, notched at regular intervals, in which are the areoles carrying five gray radial spines, one central to 1½in long. Nocturnal flowers grow from the upper areoles in winter; ivory white, brownish externally, and 1½–2½in long. Needs sun; a porous enriched compost; minimum temperature 59°F. *Mexico (Guerrero).*



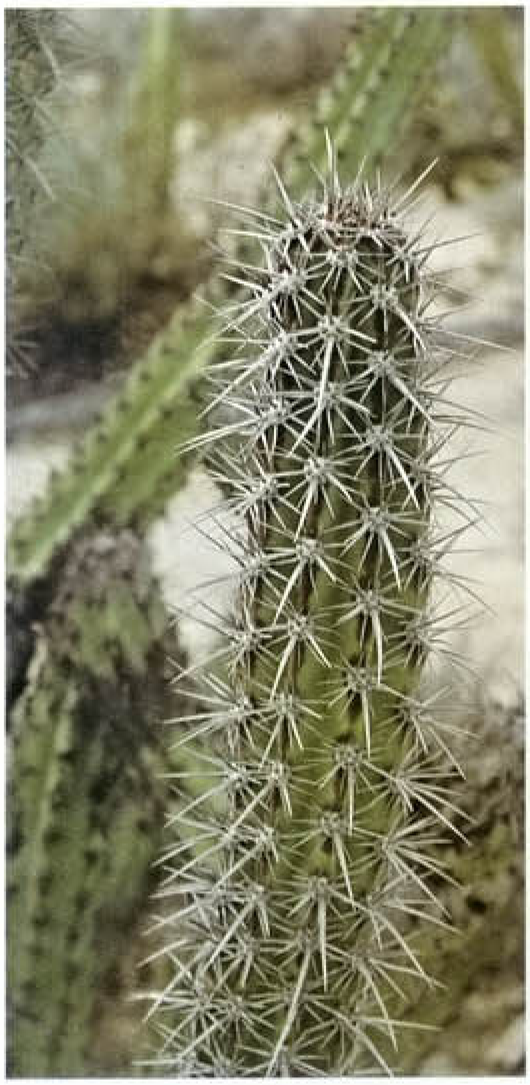
STENOCEREUS **DUMORTIERI** (Scheidw.)
Buxb.
Syn: *Lemaireocereus dumortieri* (Scheidw.)
Br. & R.; *Isolatocereus dumortieri* (Scheidw.)
Backeb.

Columnar plants up to 49ft tall, branching freely. The bluish-green branches are 2–3in thick and have five to nine ribs. Areoles bear nine to twenty radial spines about ½in long, one to four centrals to 1in, all yellowish white. Flowers 2in long, white, brownish externally, appear at night in spring. Needs full sun with warmth; normal cactus compost; minimum temperature 55°F. *Mexico (Hidalgo to Oaxaca).*



STENOCEREUS **ERUCA** (Brandegee)
A. Gibson & Horak
Syn: *Machaerocereus eruca* (Brandegee)
Br. & R.

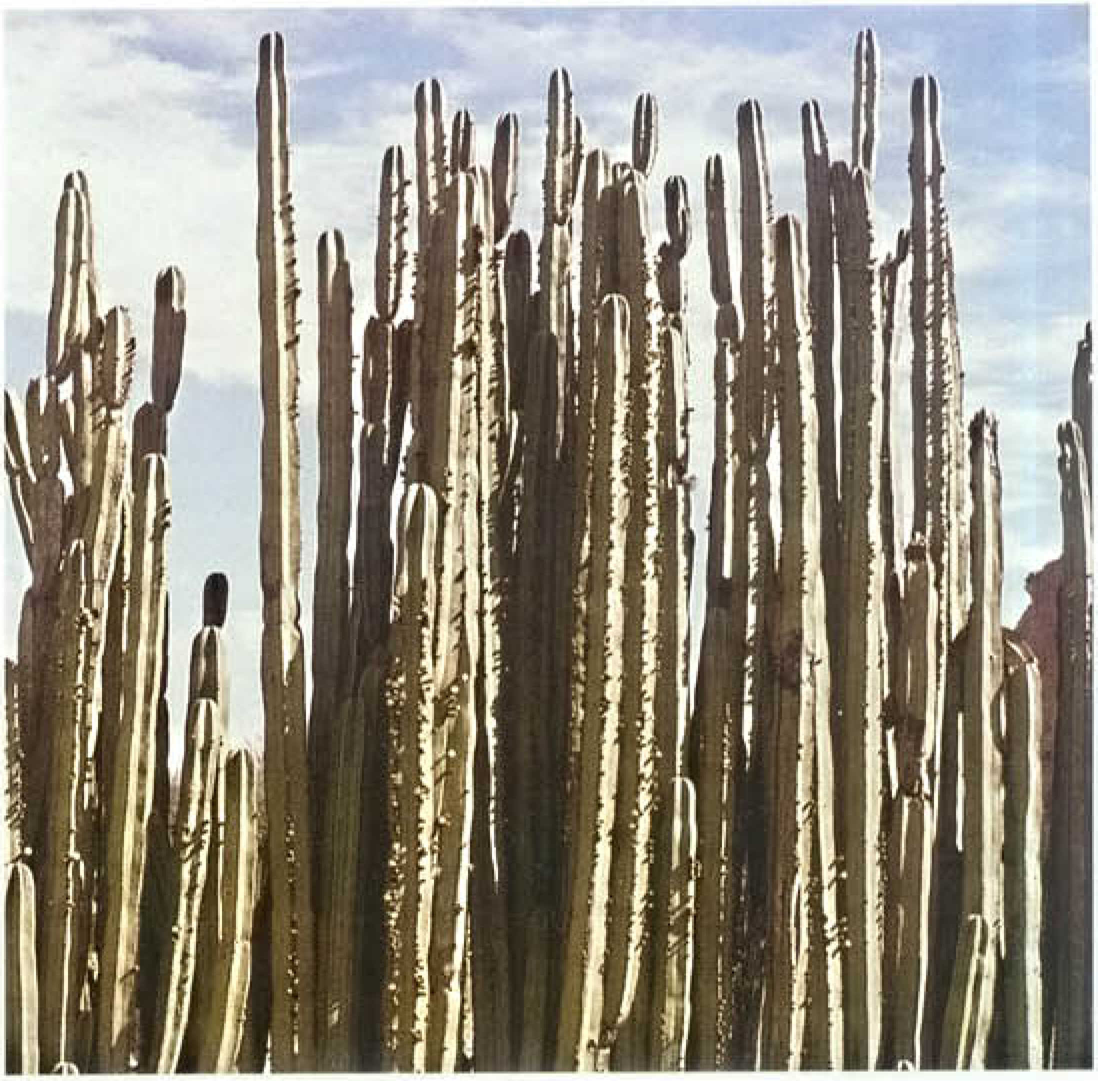
Popularly known as the Creeping Devil, this is a creeping, prostrate plant rooting along its length with only the tips of the stems rising. The stems are 3–10ft long, 1½–3¼in thick with about 12 ribs. The areoles are set about ¾in apart with around 20 grayish radial spines and one dagger-like white central to 1⅓in long. Night flowering in spring, the flowers are pale yellow, 4–4¾in long and 1½–2½in broad. Requires the sunniest position possible; very porous enriched cactus compost; minimum temperature 50°F. *Mexico (Baja).*



STENOCEREUS **GUMMOSUS** (Brandegee) A. Gibson & Horak

Syn: *Machaerocereus gummosus* (Engelm.) Br. & R.

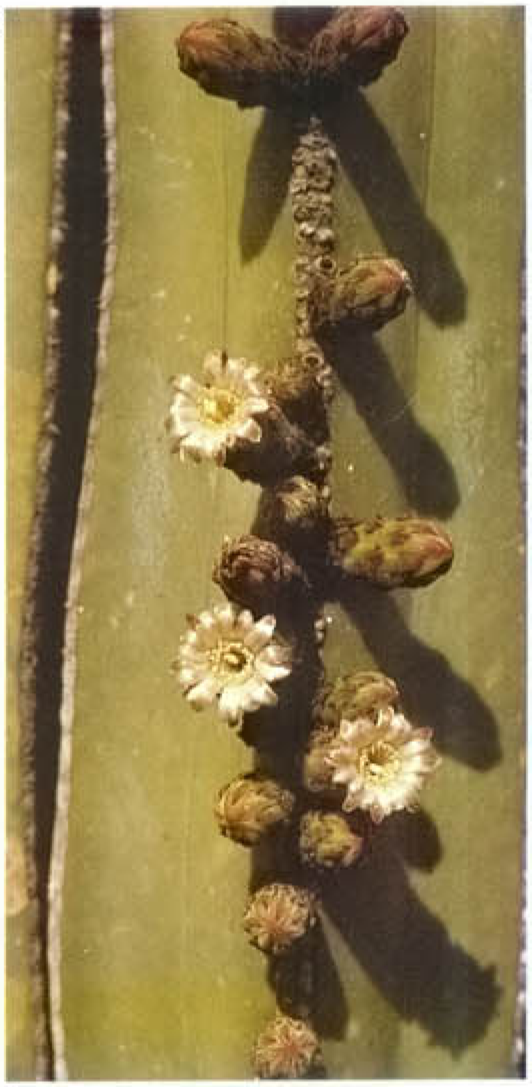
Bushy, columnar plant to 3ft tall, branching from base. Stems grayish-green, 1½–2½in thick. Eight to nine ribs with areoles at ¾in intervals, bearing eight to twelve radial spines to ½in long and four to six centrals, 1½in in length. Nocturnal flowers in early summer, are 4–5½in long on a slender tube, and purplish red. Needs a bright sunny position; calcareous, enriched porous compost; minimum temperature 55°F. *Mexico (Baja).*



STENOCEREUS **MARGINATUS** (DC.) Buxb.

Syn: *Marginatocereus marginata* (DC.) Backeb.; *Pachycereus marginatus* (DC.) Br. & R.

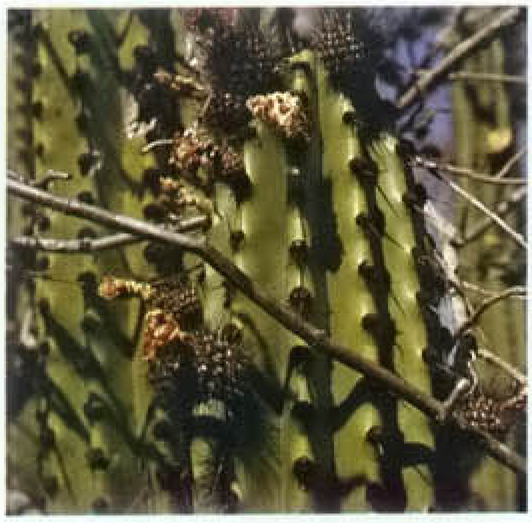
Tall, tree-like, grayish-green plants eventually reaching 10–23ft high, to 1ft thick. There are five to seven ribs with areoles set close. The brownish spines are thick, to ⅔in long, but soon falling; there are seven to nine radials and one central. Flowers are diurnal, growing in summer at the tips of the stems, and are white, reddish externally, and 1½–2in long. Requires full sunshine; normal cactus compost; minimum temperature 50°F. *Mexico.*



STENOCEREUS **KERBERI** (K. Sch.) A. Gibson & Horak

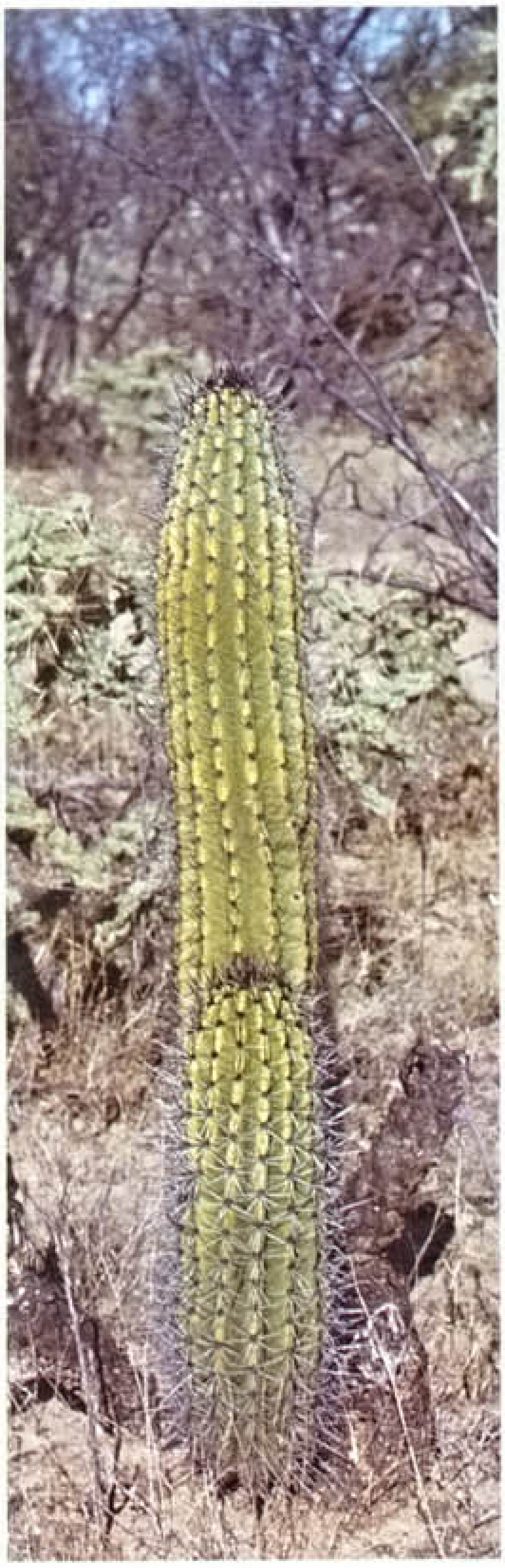
Syn: *Rathbunia kerberi* (K. Sch.) Br. & R.; *Cereus kerberi* K. Sch.

Bright-green bushy, columnar species, 6½ft tall, branches 1½–3in thick. Four crenated ribs with brownish areoles carrying 10–16 grayish radial spines ¾in long, and one to four central spines 1–2in long. Daytime flowers in summer, deep pink and 4–4¾in long with a red scaly ovary and reddish scaly tube. Requires bright light; normal cactus compost; minimum temperature 55°F. *Mexico (Colima).*



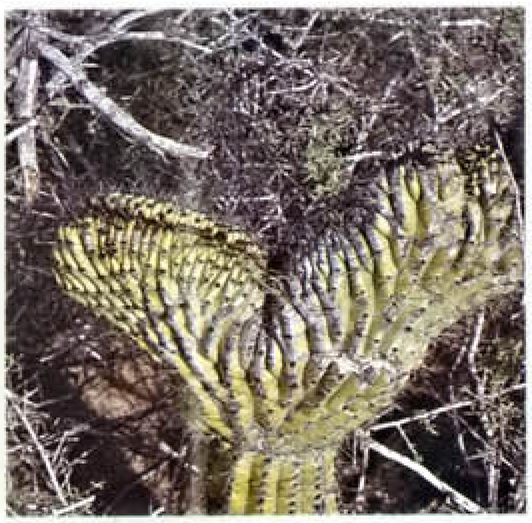
STENOCEREUS **MARTINEZII** (G. Ort.) Bravo
Syn: *Lemaireocereus martinezii* G. Ort.

A dark-green columnar plant up to 16ft tall with nine to twelve or more ribs bearing prominent dark reddish-brown areoles. The spines are dark brown, almost black, and consist of seven to eleven radials ⅒–½in long, and three centrals, the lower, the longest, up to 1in. Flowers are whitish pink . Possibly night flowering in summer, requiring an open sunny position; normal cactus compost; minimum temperature 50°F. *Mexico (Sinaloa, Mazatlan).*



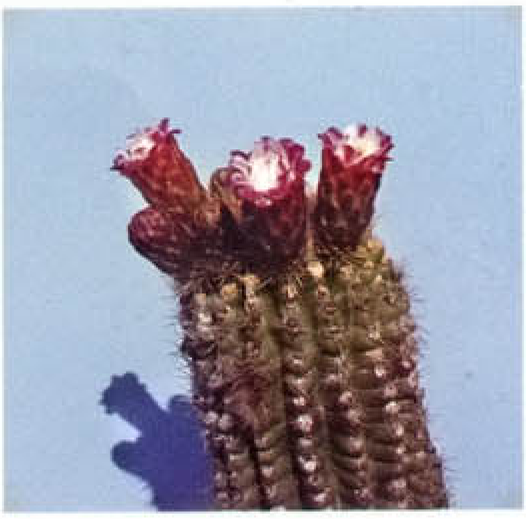
STENOCEREUS **THURBERI** (Engelm.) Buxb.
Syn: *Marshallocereus thurberi* (Engelm.) Backeb.

Grayish-green columnar plant 6½–10ft high, branching from base. Branches 6in across, with 12–17 prominent ribs and brown areoles ½–¾in apart. Spines black, turning gray; seven to nine radials ½in long, and one to three centrals ¾–2in in length. Flowers diurnal, in summer, about 3in long, with pink petals and red sepals. Needs bright sunlight; normal cactus compost; minimum temperature 50°F. *USA (Texas), Mexico (Baja California).*



STENOCEREUS **THURBERI fma CRISTATA**

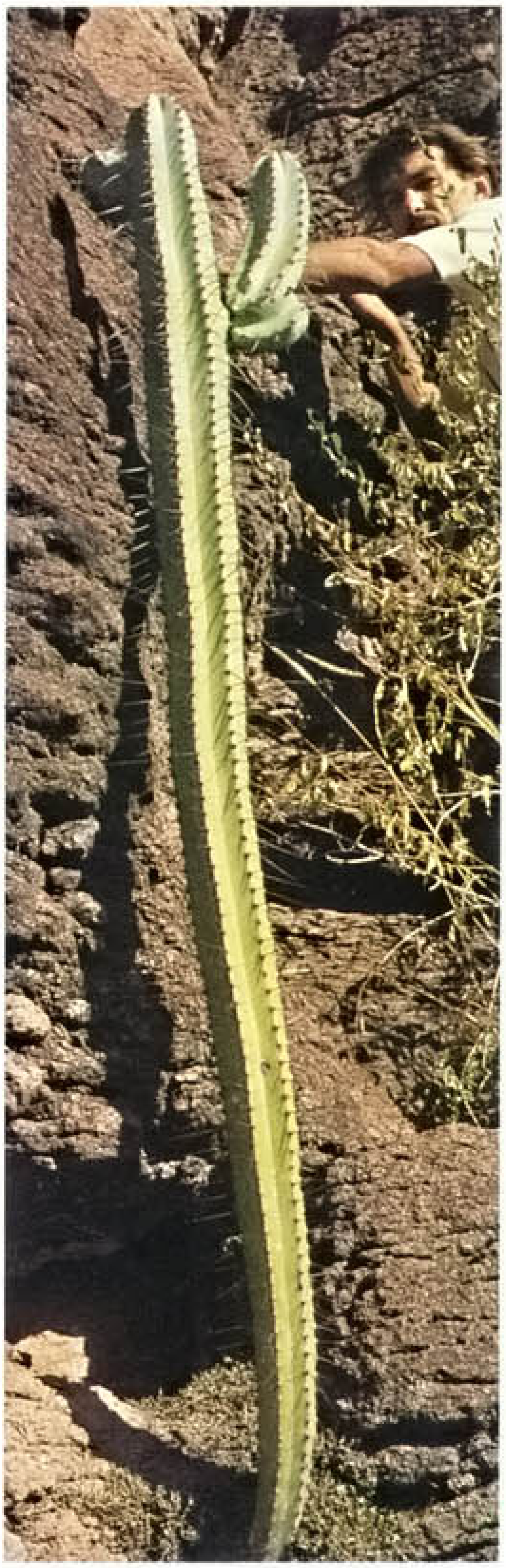
Very occasionally a fasciated fan-like formation develops at the tips of the stems creating an interesting feature about 2ft in diameter. This picture was taken in the Baja California (Mexico).



STENOCEREUS **TRELEASII** (Br. & R.) Backeb.
Syn: *Lemaireocereus treleasii* Br. & R.

A columnar, rather weak-stemmed species, more or less erect and branching from the base. The stems are only 1½–3¼in thick and have 14–20 ribs, regularly notched, with whitish areoles bearing eight to ten small radial spines and one or two longer yellowish-gray centrals. Flowers, which are diurnal, appearing in summer, are 1½–2in long and pinkish purple in color. Needs good light; normal cactus compost; minimum temperature 55°F. *Mexico (Oaxaca).*

× STENOMYRTILLUS



×STENOMYRTILLUS

A bi-generic title provided by Rowley in 1980 for natural hybrids between *Stenocereus* and *Myrtillocactus*. Shown here is one of the few discovered, and the peculiar features of both genera are clearly obvious. So far the plant remains un-named. *Mexico.*

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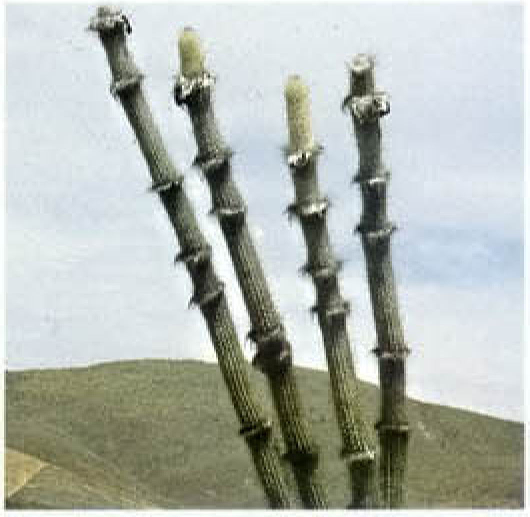
STEPHANOCEREUS



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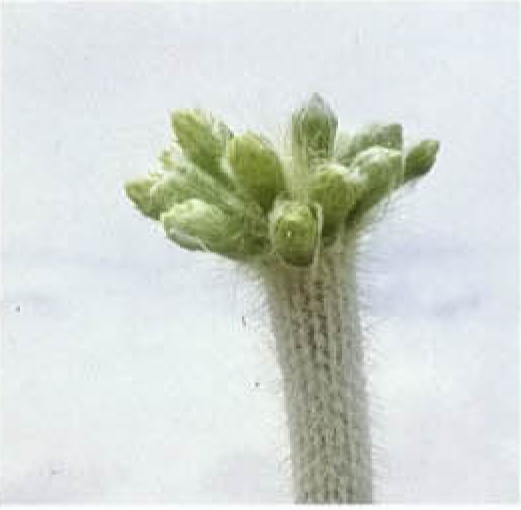

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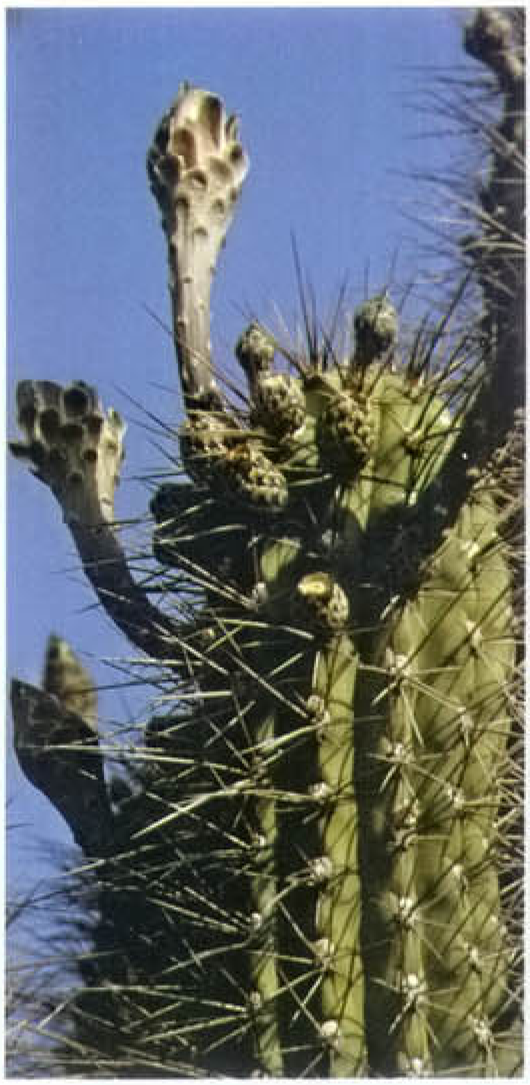
STEPHANOCEREUS **LEUCOSTELE** (Gürke) Berger

A rare, columnar plant, up to 10ft tall and 4in thick in its habitat. The bluish-green stems have 12–18 ribs, branching from well above the base, and the areoles are about ⅔in long with white hairs and about 20 white, later brownish, radial spines, ⅕–⅔in in length, and one or two yellowish centrals 1–1½in long. Flowers are borne in a densely woolly and hairy cephalium which is subsequently grown through, but the encircling cephalium still persists and is likely to flower in following seasons. Several white flowers are produced up to 3in long with a yellowish, scaly tube; these are nocturnal, appearing in summer. The green fruits of *Stephanocereus* develop soon after flowering. These are oval, and about 2in long, and remain on the plant for many weeks before ripening. Requires a bright sunny position; normal cactus compost; minimum temperature 55°F. *Brazil (Bahia).*

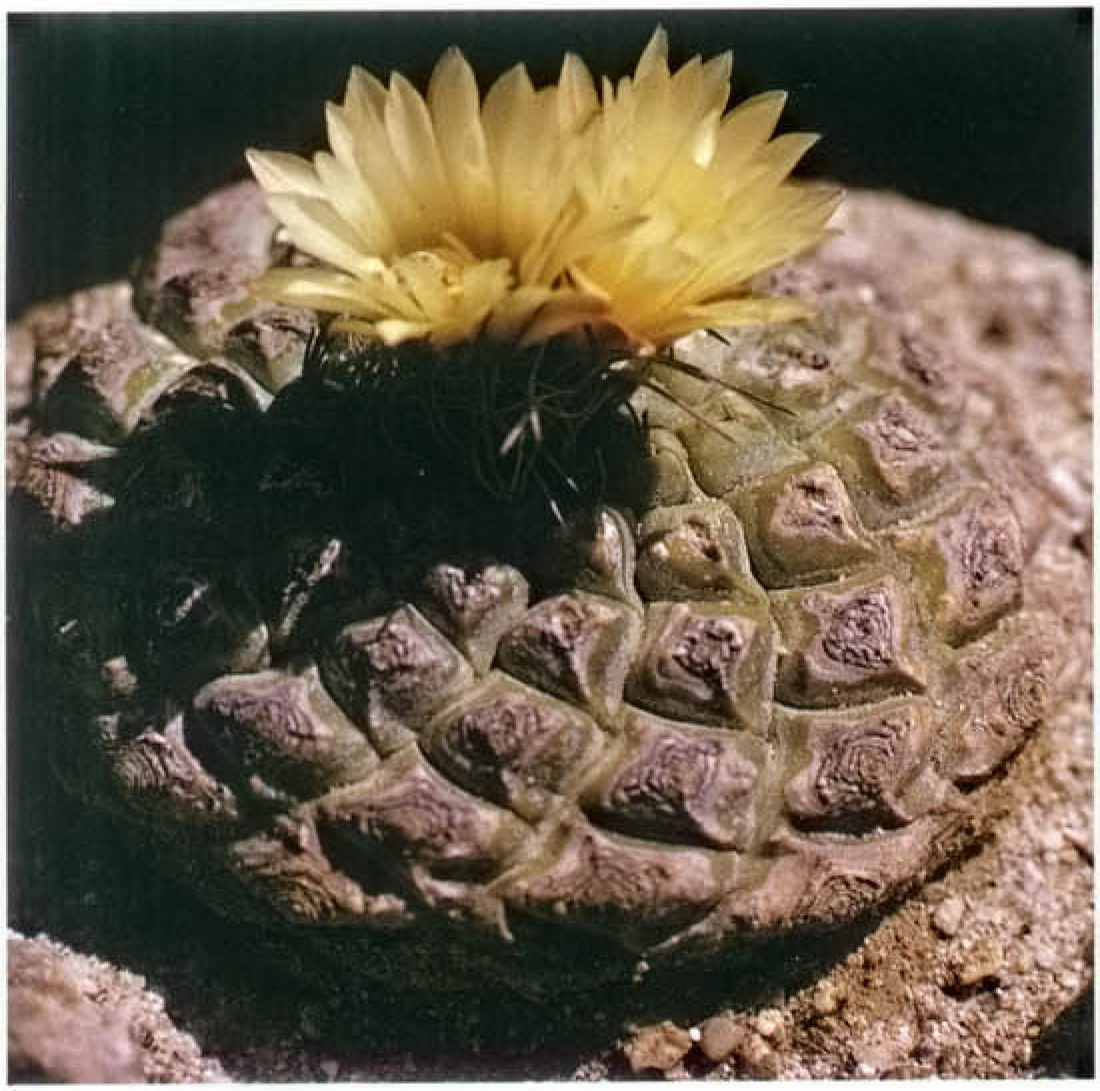
STETSONIA



STETSONIA **CORYNE** (Salm-Dyck) Br. & R.

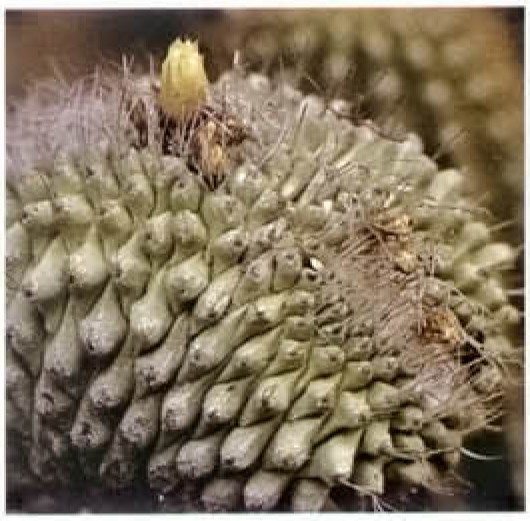
A tree-like, columnar species 16–26ft tall, the trunk up to 1ft 3in thick at the base. Stems are bluish green, 3½–4in in diameter, and have eight to nine ribs. The areoles carry brownish-yellow spines which later turn glossy black, seven to nine radials up to 1in long, and one central to 3¼in in length. Flowers, up to 6in long, are nocturnal in summer and consist of a long scaly tube tipped with white inner petals, glossy green externally. Requires good light and warmth; normal cactus compost; minimum temperature 55°F. *Bolivia, Argentina.*

STROMBOCACTUS

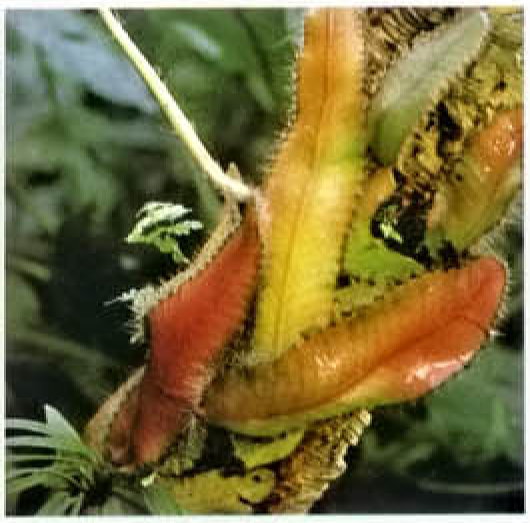


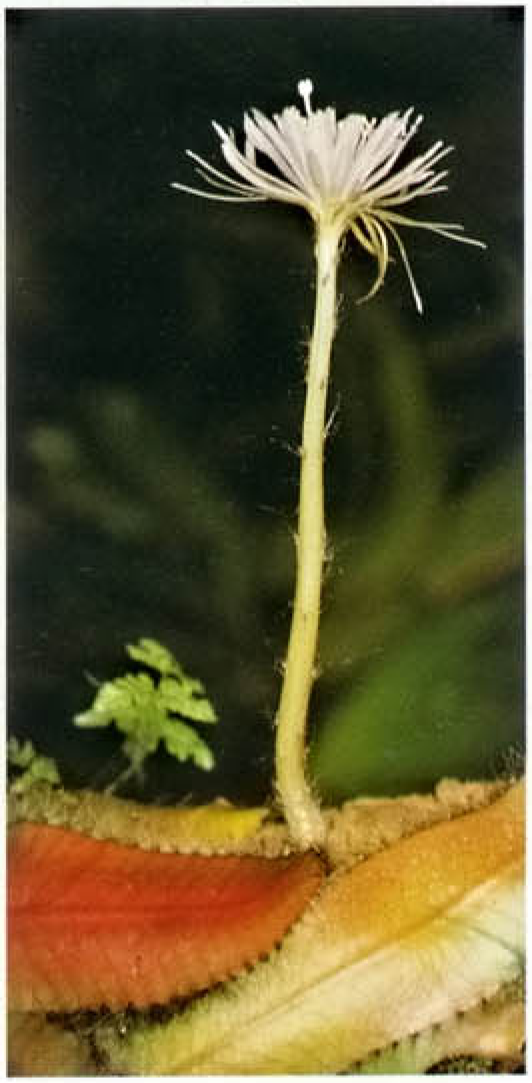
STROMBOCACTUS DISCIFORMIS (K. Sch.) Br. & R.
Syn: *Echinocactus disciformis* K. Sch.

A grayish-green, globular plant, 2–4¾in in diameter, only very rarely offsetting. It is slightly flattened on the top with a few persistent white spines at the center. The 12–18 ribs are formed into flat, closely set rhomboid tubercles which are raised in the center, each with a whitish areole bearing one to five whitish spines ⅔in long. A summer, diurnal species, the flowers are white or yellowish and about 1½in across. The cristate form of *Strombocactus disciformis* is rarely encountered, and this invariably provides two crowns. Careful watering is required, and the plant should be kept dry in winter. Needs full sun; a mineral compost; minimum temperature 50°F. *Mexico (Hidalgo).*



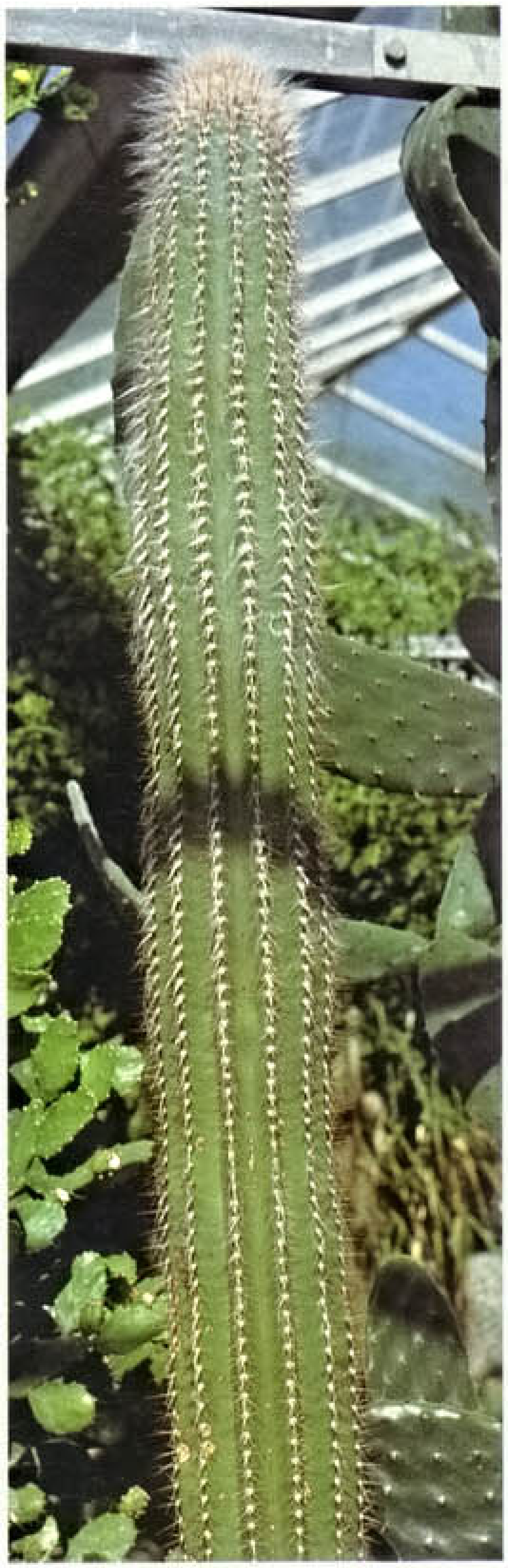
STROPHOCACTUS





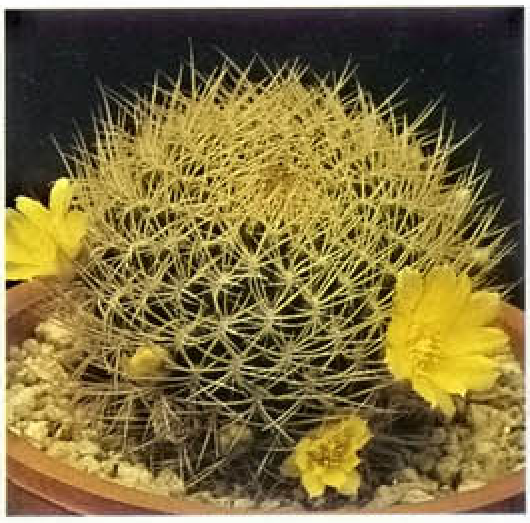
STROPHOCACTUS WITTII (K. Sch.) Br. & R.

An extreme rarity, this is a climbing epiphyte with flattened stems 13–16ft in length, 1–3¼in wide. These have a prominent center vein from which aerial roots appear along its length to ensure persistent climbing. The areoles are closely set along the finely toothed margins, sometimes with fine bristle-like spines up to ½in long. The summer flowers are nocturnal, white with pinkish outer petals and up to 10in long. Requires semi-shade; normal cactus compost; minimum temperature 70°F. *Brazil (Manaos).*



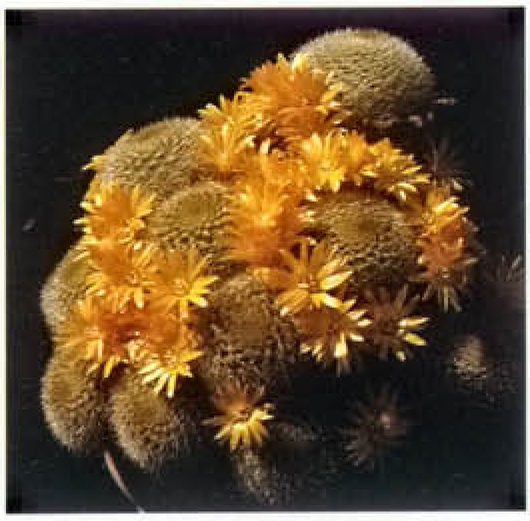
SUBPILOCEREUS REPANDUS (L.) Backeb.

A tall, columnar plant, often tree-like in its habitat, reaching to 33ft or more high. It has many grayish to bluish-green branches, each up to about 4in in diameter. There are eight to twelve ribs about ½in high, and the grayish-white areoles have numerous fine, whitish bristle-like spines and one or more centralized spines, to 2in in length. Funnel-shaped flowers, 4in long and 1½in across, with white inner petals and greenish-white or pale-pinkish outer segments, and are nocturnal, in summer. Needs sun; normal cactus compost; minimum temperature 64°F. *Curacao.*



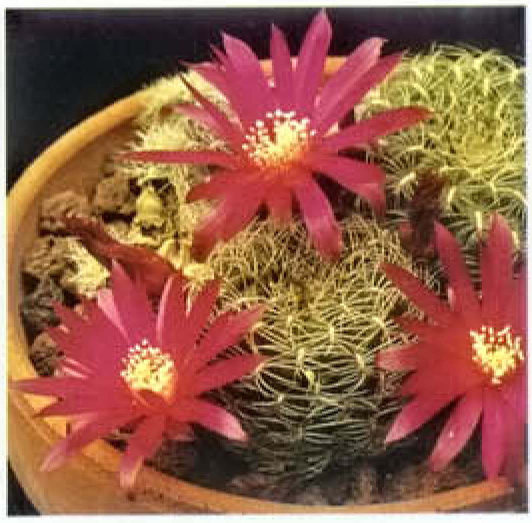
SULCOREBUTIA BREVIFLORA Backeb.
Syn: *Sulcorebutia haseltonii* (Card.) Donald

The brownish-green stems are more or less globular, up to 2½in wide and 1½in high. The plant has about 20 ribs, and the areoles are ⅒–⅕in long with whitish wool, each with about 12 bristle-like, yellowish pectinate spines ½in long. Mid-summer flowering, and diurnal, the flowers are usually yellow, about 1in long and across. Needs a bright position; normal cactus compost; minimum temperature 50°F. *Bolivia (Cochabamba).*



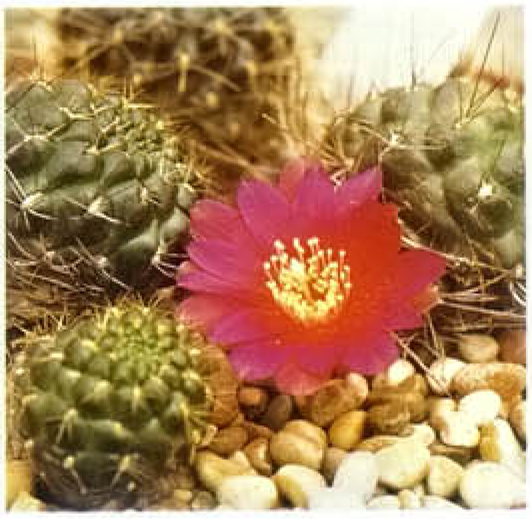
SULCOREBUTIA GLOMERISETA (Card.) Ritter
Syn: *Rebutia glomeriseta* Card.

A clustering plant formed of many individual dull-green stems, each up to 2½in high and wide, with about 20 spiraling ribs. The brown or white-felted areoles are about ⅒in long, and there are numerous yellowish or brownish-yellow spines, radiating in series, ¾–1in long. It is summer flowering, and diurnal, with pale to deep, almost orange-yellow flowers, about 1in long, ⅔in wide. Requires bright light, normal cactus compost; minimum temperature 50°F. *Bolivia (Cochabamba).*



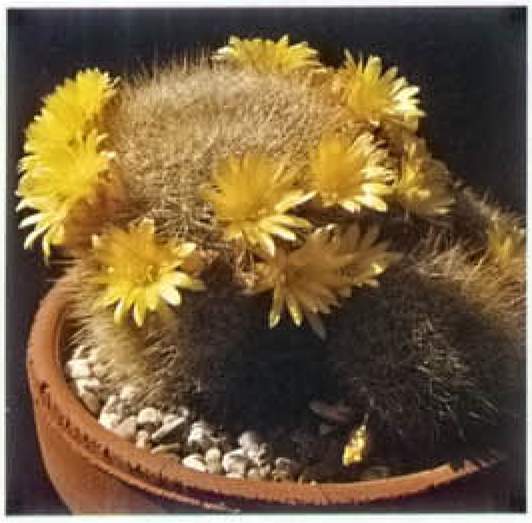
SULCOREBUTIA CRISPATA Rausch

Generally a clustering species with grayish-green stems about 1in high, 1⅕in thick, and about 13 spirally arranged ribs. The areoles are about ⅕in long with brown or whitish wool and bear 20–30 white to pale-brown radial spines from ⅕in to nearly ¾in in length. Flowering by day in mid-summer, the flowers are magenta, about 1in long and wide. Requires bright light; normal cactus compost; minimum temperature 50°F. *Bolivia (Chuquisaca).*



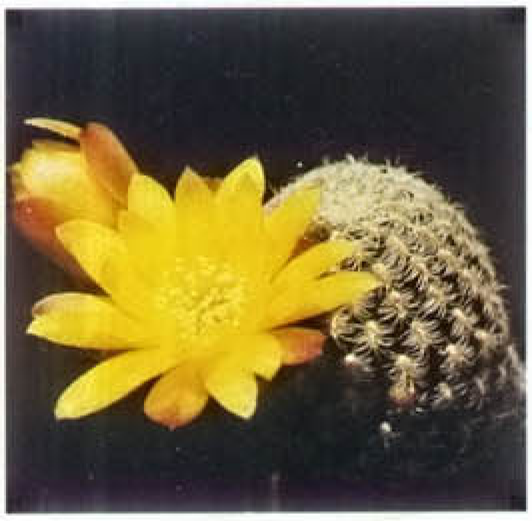
SULCOREBUTIA GLOMERISPINA (Card.) Buin. & Donald
Syn: *Rebutia glomerispina* Card.

Slightly globular plants with a tendency to group. The dark gray-green stems are ¾in high, 1in wide, with about 20 spiraling ribs. Areoles are about ⅒in long with whitish wool, and there are 10–14 brownish radial spines from 2–4in or more, with occasionally one or more central which is similar. The flowers are a deep reddish purple, about 1in long, ¾in wide, and appear by day in summer. Requires bright light; normal cactus compost; minimum temperature 50°F. *Bolivia (Cochabamba).*



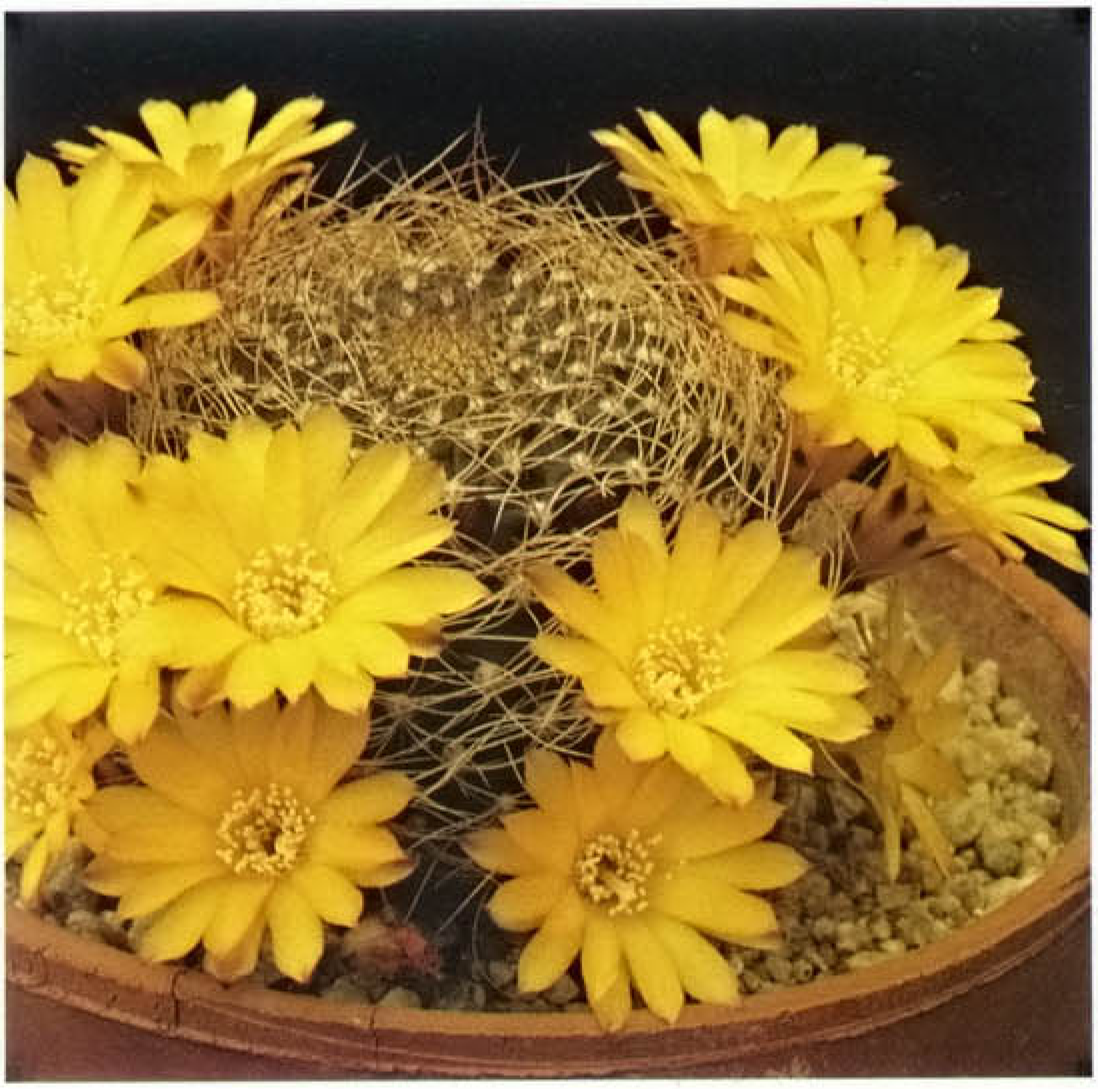
SULCOREBUTIA **KRAHNII** Rausch

A slow-growing, dull-green clustering species with flattened, globular stems up to 2in high, 2½–3¼in wide. It has 30 or more spiraling ribs and white woolly areoles about ⅙in long, with 20–24 white to brownish radial spines ½in long and three to seven dark-brown centrals about ½in. The flowers are yellow, about 1in long and across, appearing by day, in summer. Requires bright sun; normal cactus compost; minimum temperature 50°F. *Bolivia (Santa Cruz).*



SULCOREBUTIA **LANGERII** Falken. & Neumann

A dark reddish-green, globose, solitary species, only rare clustering, ¾–1in in diameter. It has about 14 tuberculate ribs and pale-brownish areoles bear 21–25 bristly, mostly brownish-white pectinate spines up to ⅒in long. Day flowering in summer, the flowers are bright yellow. Needs bright light; normal cactus compost; minimum temperature 50°F. *Bolivia (Santa Cruz).*



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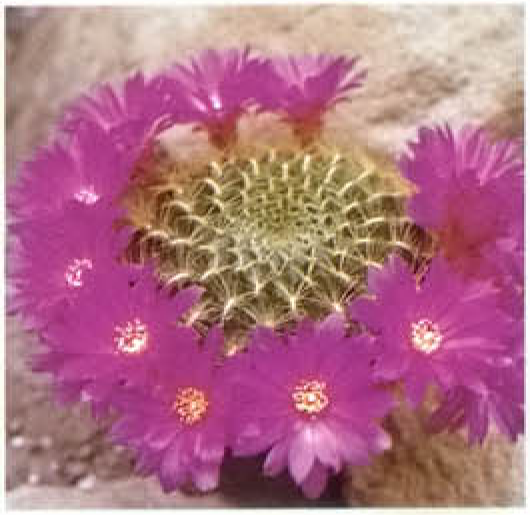
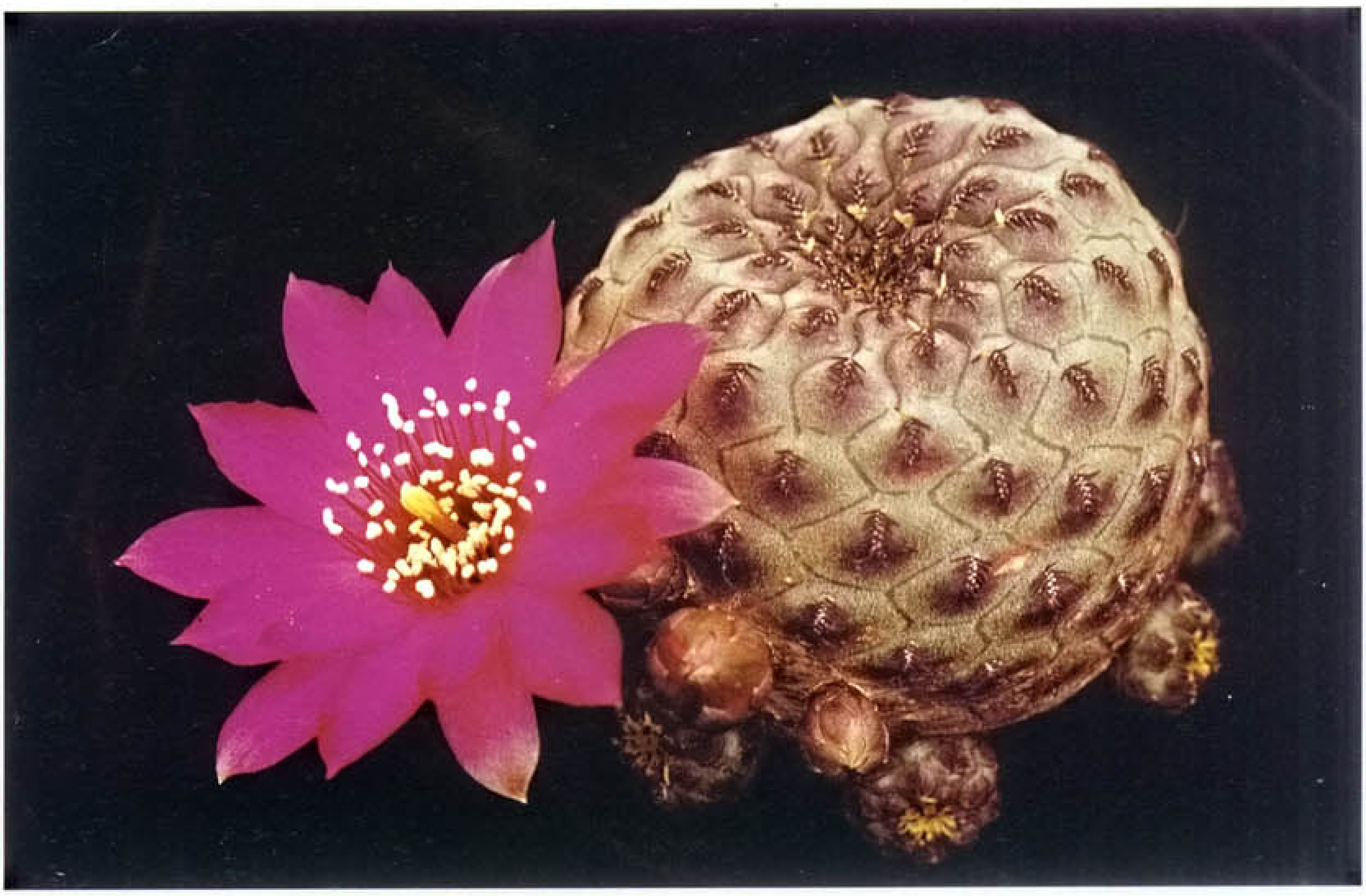
SULCOREBUTIA **MENESESII** (Card.) Buin. & Donald

A dark grayish-green clump-forming species. Each globular stem is about 1½in high, 2–2½in thick, with about 14–18 spiraling ribs. The white woolly areoles are about ¼in long and bear 10–15 brown-tipped whitish radial spines from ⅕–1in or more long. Flowers are diurnal, appearing in summer; they are pale to bright yellow, 1½in long and 1⅓in in diameter. Requires bright light; normal cactus compost; minimum temperature 50°F. *Bolivia (Cochabamba).*



SULCOREBUTIA **PAMPAGRANDENSIS** Rausch

A grayish-green, more or less solitary species, 1½in high, 3in wide, with 18–26 spiraling ribs. The white woolly areoles, up to ⅓in long, bear 16–25 pale-brownish or yellowish radial spines ¼–⅔in long and one, sometimes three to four, brown-tipped yellowish centrals to ⅔in in length. Flowers appear in summer, and are diurnal; purple or magenta, they are 1⅓in long, 1¾in in diameter. Requires bright light; normal cactus compost; minimum temperature 50°F. *Bolivia (Cochabamba).*



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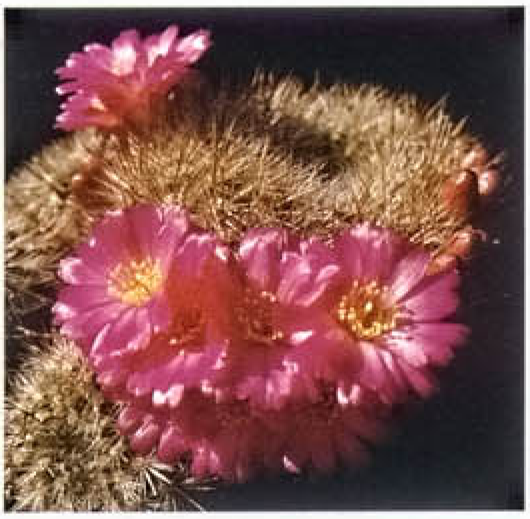
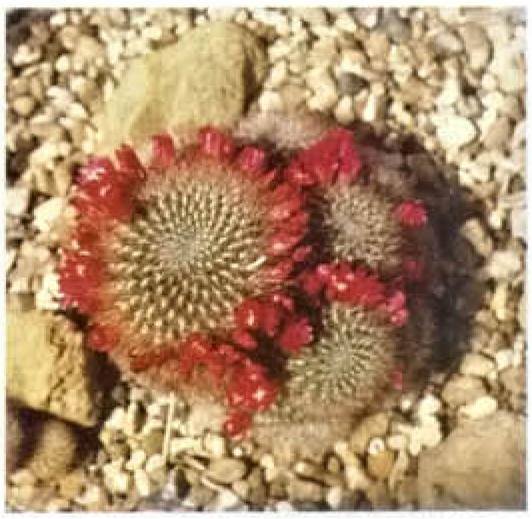
SULCOREBUTIA **RAUSCHII** Frank

A clustering plant composed of small blackish-green or purplish-green stems about ¾in high, 1in in diameter with up to 16 spiraling ribs. The areoles are almost bare, about 1⁄10in long with 11–12 minute dark or yellowish radial spines about 1⁄16in in length, rarely one or two centrals. Day flowering in early to mid-summer, the flowers are magenta pink or purple, 1in long and across. Needs a bright sunny position; normal cactus compost; minimum temperature 50°F. *Bolivia (Chuquisaca).*



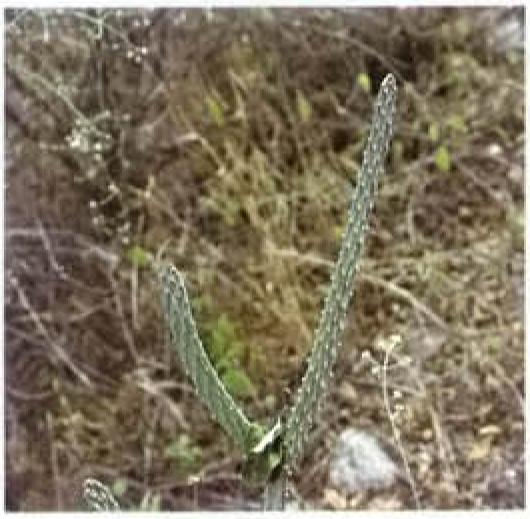
SULCOREBUTIA **TIRAQUENSIS** (Card.) Ritter **var. BICOLORISPINA** Knize

One of many forms of this popular species. It is a grouping plant with bluish-green stems 3¼in high, 3in wide with 16 to possibly 28 ribs arranged spirally. The white woolly areoles are about ⅕in long, 1⁄10in wide, and bear 30–40 or more fine white radial spines ⅕in to ½in in length, and eight to twelve dark glossy brown centrals up to about ¾in long. Flowering by day in mid-summer, the flowers are a glossy purplish pink, about 1in long, ¾–1in in diameter. Needs bright light; normal cactus compost; minimum temperature 50°F. *Bolivia (Cochabamba).*



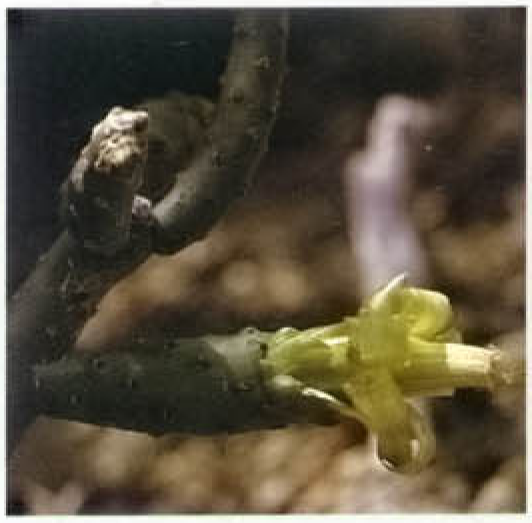
SULCOREBUTIA **TIRAQUENSIS var. SPINOSIOR** Ritter

A solitary, then clustering plant with dark-green stems about 2½in high and thick and about 21 spiraling ribs. The areoles have whitish wool and are about ⅕in long. They bear about 25–30 or more yellowish-white or brownish radial spines about ¼in long, and about 10–12 dark-brownish centrals to ½in in length. Day flowering in mid-summer, the red flowers are prolific; they are about 1in long and wide. Needs sun; normal cactus compost; minimum temperature 50°F. *Bolivia (Cochabamba).*



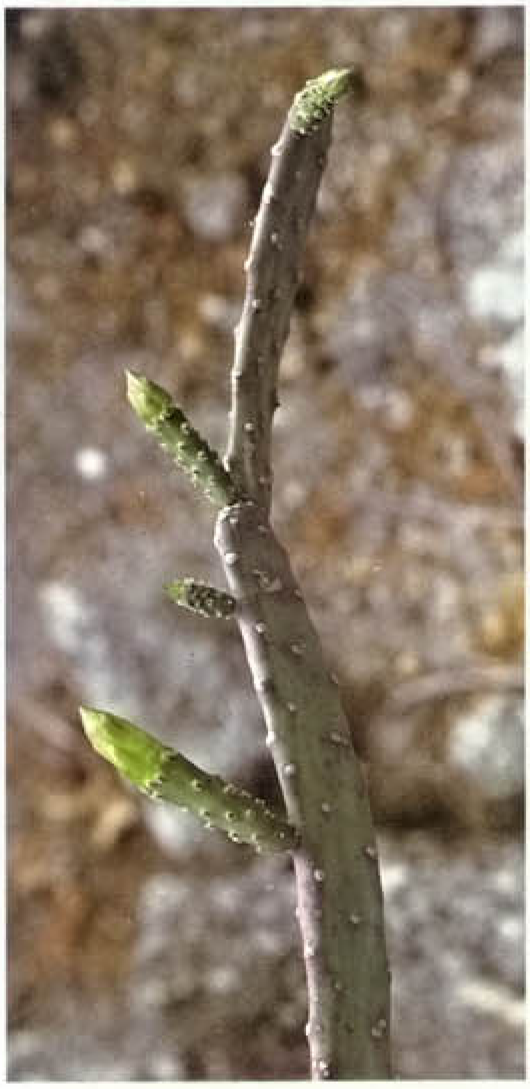
TACINGA **BRAUNII** Esteves

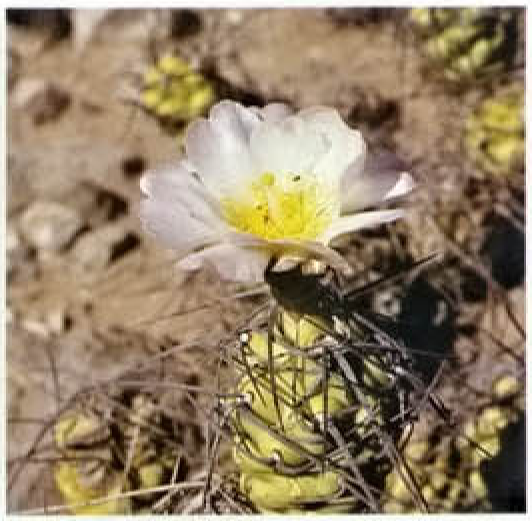
A very recent discovery and only described in 1989. While in certain features it is similar to *T. funalis*, the grayish to reddish-green stems are flattened and have regularly arranged pale-brownish areoles and minute white glochids but no spines. Flowers are nocturnal in summer, invariably produced from near the tips of the stems, and are pale greenish white, 3¼in or more long. Needs a fairly bright position; normal cactus compost; minimum temperature 55°F. *Brazil.*



TACINGA **FUNALIS** Br. & R.

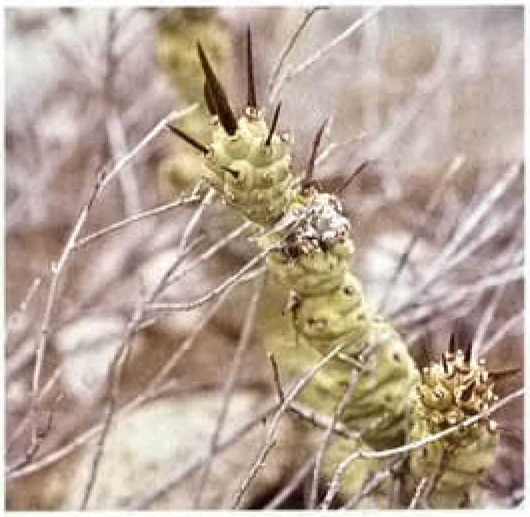
A tall species, up to about 39ft high in its habitat. The bright green stems are cylindrical, ½–⅔in thick, and frequently branching. When young they have small, quickly deciduous leaves. The areoles are brownish with white glochids, but no spines. Flowers are nocturnal, in summer, borne on the upper part of the stems. They are pale green, the few petals reflexed and rolled back against the long floral tube, in all 3–3¼in long. Requires slight shade; normal cactus compost; minimum temperature 55°F. *Brazil (Bahia).*





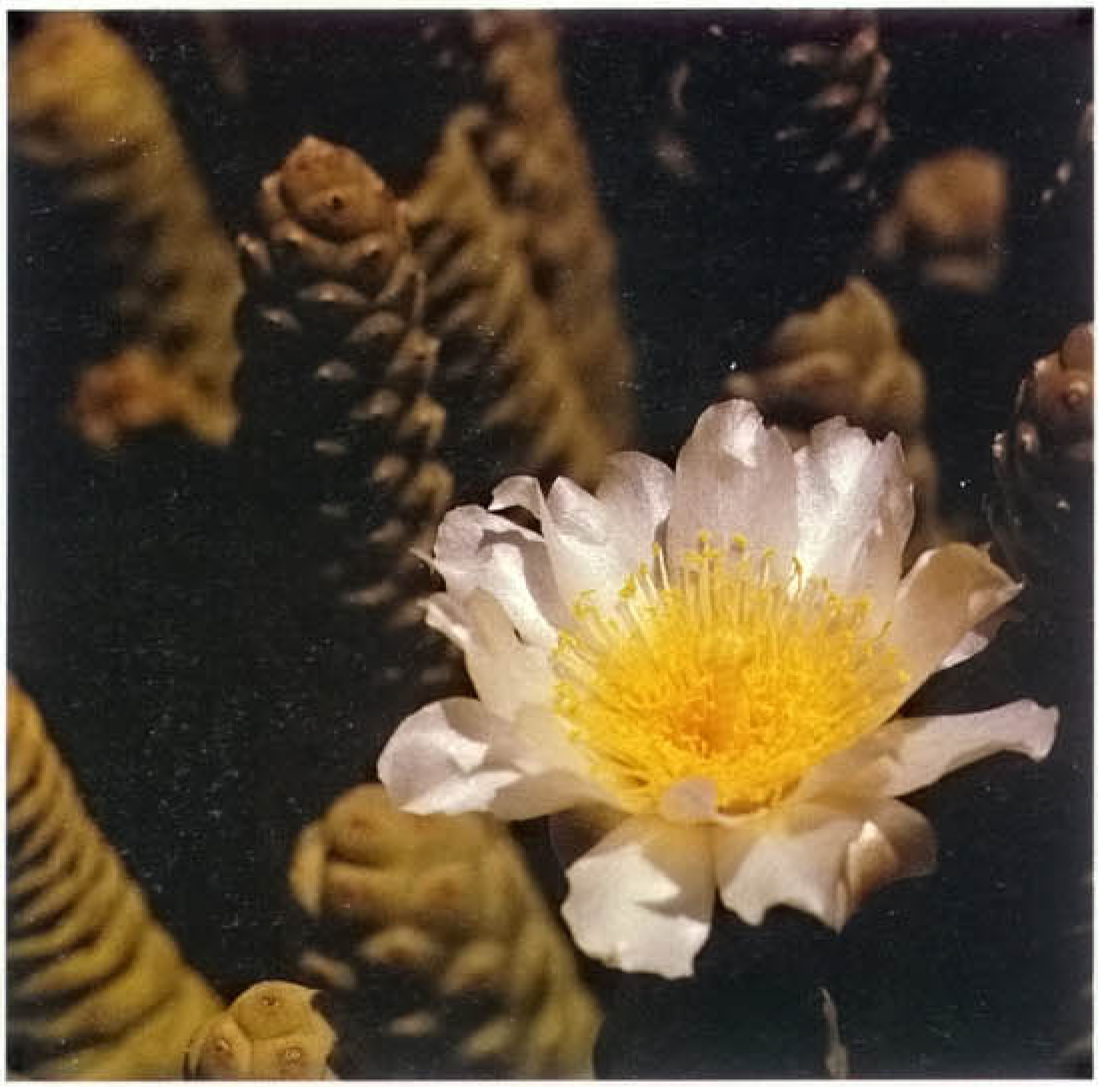
TEPHROCACTUS **ALEXANDERI** (Br. & R.) Backeb.
Syn: *Opuntia alexanderi* Br. & R.

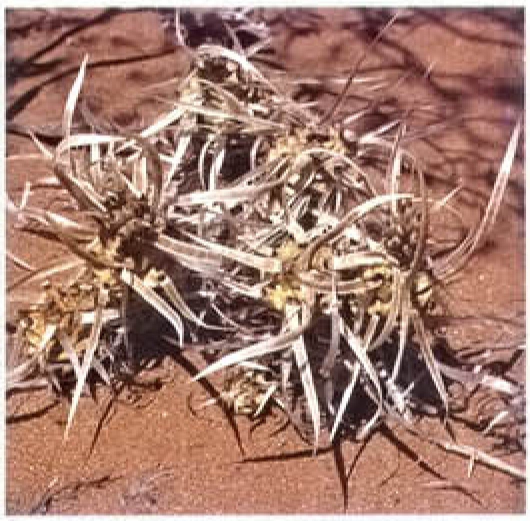
A clump-forming species with grayish-green, globose joints ¾–1in thick. The areoles are very small and closely arranged on prominently raised warts. Spines are a dark grayish brown, up to about 1½in in length, and flexible. It is day flowering in summer with pale, pinkish-white flowers about 1½in across. Requires a sunny position; slightly calcareous compost; minimum temperature 50°F. *Argentina (La Rioja).*



TEPHROCACTUS **ARTICULATUS** (Pfeiff.) Backeb.

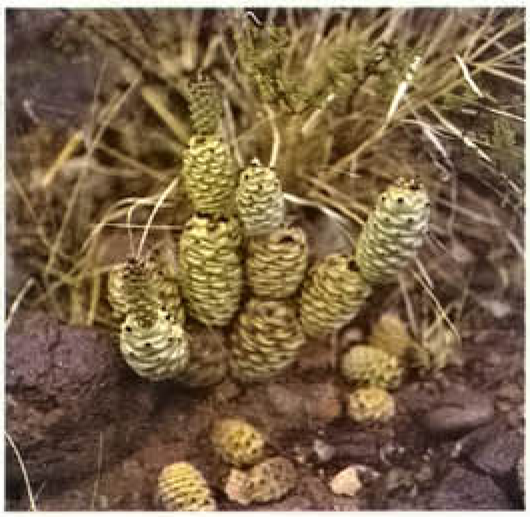
A grayish-green, grouping plant, the joints more or less cylindrical in shape, and about 2in long. Small areoles have very short brown glochids and no spines except deep reddish-brown, awl-shaped ones which appear at the tips of the joints but soon fall. The flowers, which appear by day in summer, are white or pale pinkish, 1–1½in across. Needs a sunny position; normal cactus compost; minimum temperature 50°F. *Argentina (Mendoza).*





TEPHROCACTUS **ARTICULATUS** (Pfeiff.) **var. OLIGACANTHA** (Speg.) Backeb.

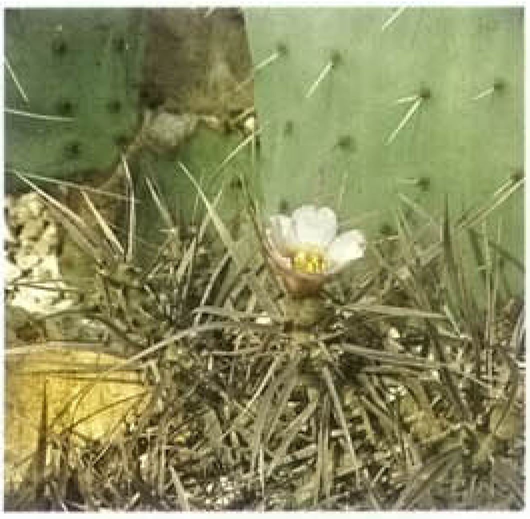
A low-growing, clumping species with dull bluish- or grayish-green joints, globose in shape, and up to 2in long, 1⅓in wide. Small brownish areoles bear one or two flat grayish-whitish spines, 2½–3¼in in length, which are twisted and flexible. The pale pinkish-white flowers, about 1in long, appear by day in mid-summer. Requires a sunny position; normal cactus compost; minimum temperature 50°F. *Argentina (San Juan).*



TEPHROCACTUS **ARTICULATUS** (Pfeiff.) **var. INERMIS** (Speg.) Backeb.

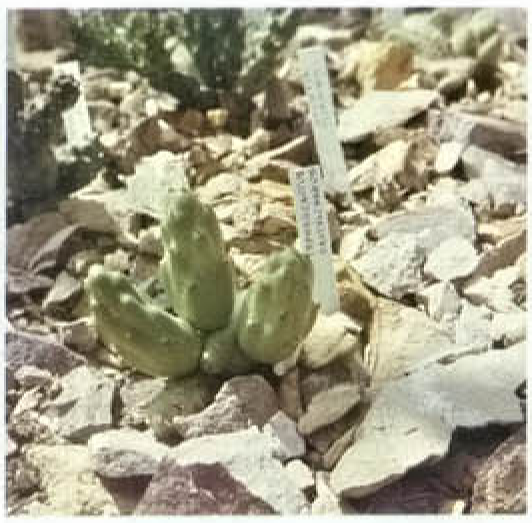
Syn: *Opuntia inermis* Speg.; *Tephrocactus strobiliformis* (Berg.) Backeb.

This variety has thick, cylindrical, green or brownish-green stems, 4in long, 1in thick, with tubercle-like prominences tipped with a white areole, but spineless. The glochids are minute, and pale brownish. Flowering in summer, it is diurnal, with pale pinkish-white flowers about 2in across. Requires sun; slightly calcareous cactus compost; minimum temperature 50°F. *Argentina (Mendoza).*



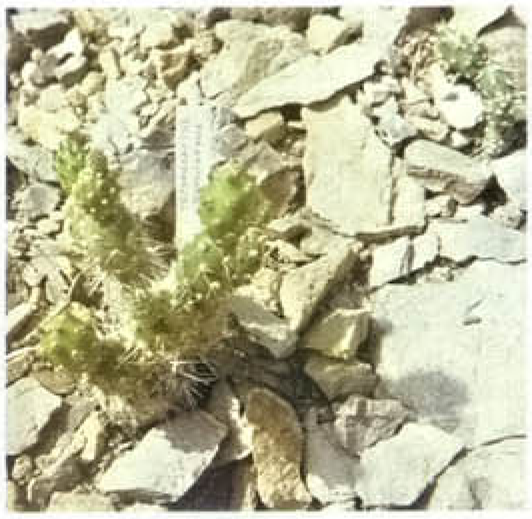
TEPHROCACTUS **ARTICULATUS var. SYRINGACANTHUS** (Pfeiff.) Backeb.

A low-growing variety with short, jointed stems up to 2in thick, and almost round, the joints set one on another. The areoles are large with brown glochids and one or two fairly stiff, grayish-white or pale-brownish flattened spines 2–4in long, 1/10in broad. Summer flowering, and diurnal, the flowers are white to pink, and about 4in in diameter. Requires full sun; slightly calcareous cactus compost; minimum temperature 50°F. *Western Argentina.*



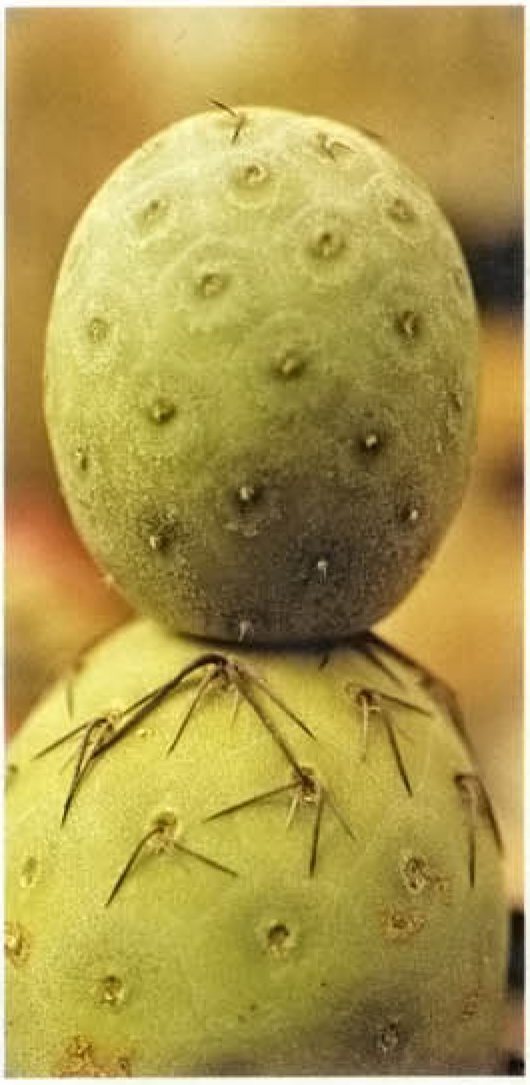
TEPHROCACTUS **DACTYLIFERUS** (Vaup.) Backeb.

Grayish-green stems about 3in long and up to 1½in thick, forming small clusters. The yellowish-white areoles are minute, with numerous glochids and one or two yellowish-brown spines, a fraction of an inch long at the most. Flowers are yellowish-orange, about 2in long, and are diurnal, flowering in summer. Requires very slight shade; normal cactus compost; minimum temperature 45°F. *Southern Peru.*



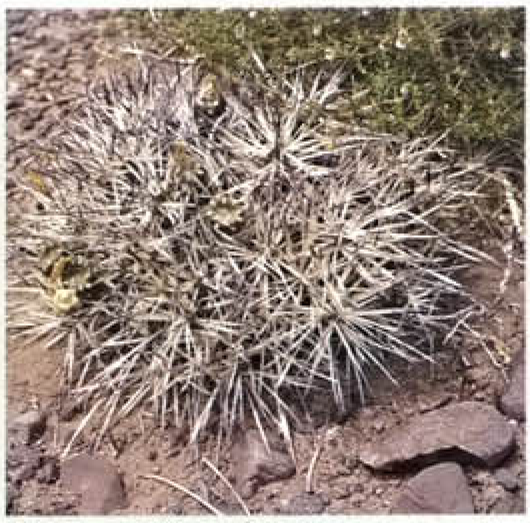
TEPHROCACTUS **DIMORPHUS** (Förster) Backeb.

The plant is usually up to about 8in high, with stems composed of small oval, bright green joints up to 1in long and thick. Areoles are white-felted with bright yellow glochids and at the most six to eight, more usually three to four, pale-brownish spines, varying in size from up to ¾in or more. It is summer flowering, and diurnal, with bright yellow flowers up to 2in across when fully open. Requires bright light; normal cactus compost; minimum temperature 45°F. *Southern Peru (Pampa).*



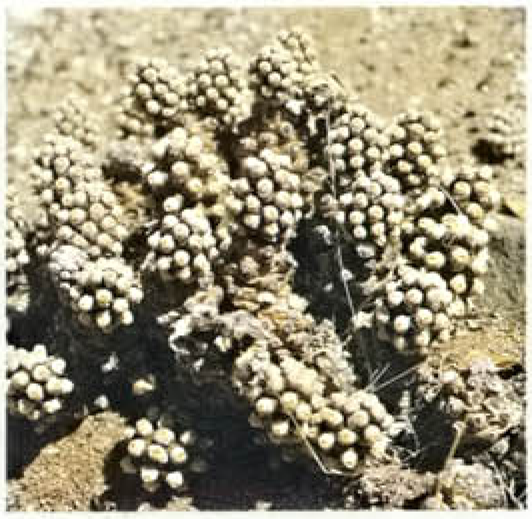
TEPHROCACTUS **GEOMETRICUS** (Cast.) Backeb.

A grayish-green plant to about 6in tall. The joints are almost rounded, to 1⅓in long and thick, and the brownish areoles have minute bristly glochids and three to five whitish or brown spines from ⅕–½in in length, these soon falling. Flowers are white, about 1in long, and appear by day in mid-summer. Needs sun; normal cactus compost; minimum temperature 50°F. *Argentina (Catamarca).*



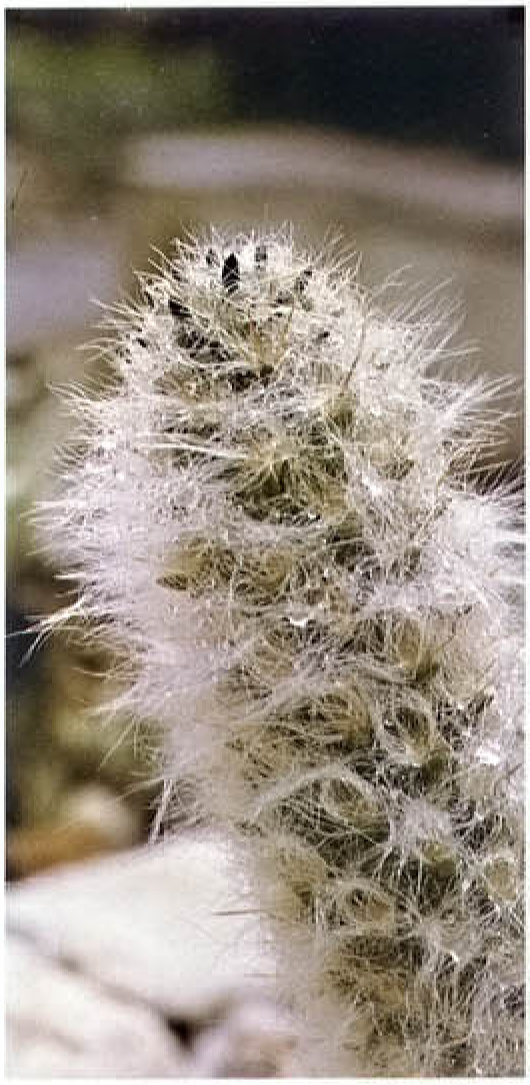
TEPHROCACTUS **GLOMERATUS** (Haw.) Backeb.

A most variable species; the one featured would appear to have escaped adequate description. A clumping plant, with dull-greenish joints about 1in long, ½–⅔in thick. The areoles are small and yellowish-felted with yellowish glochids. There are usually three grayish-white spines to each areole, about ⅔in long. Flowers are unknown, but are obviously summer flowering, and diurnal. Requires a sunny position; normal cactus compost; minimum temperature 50°F. *Argentina (San Juan).*



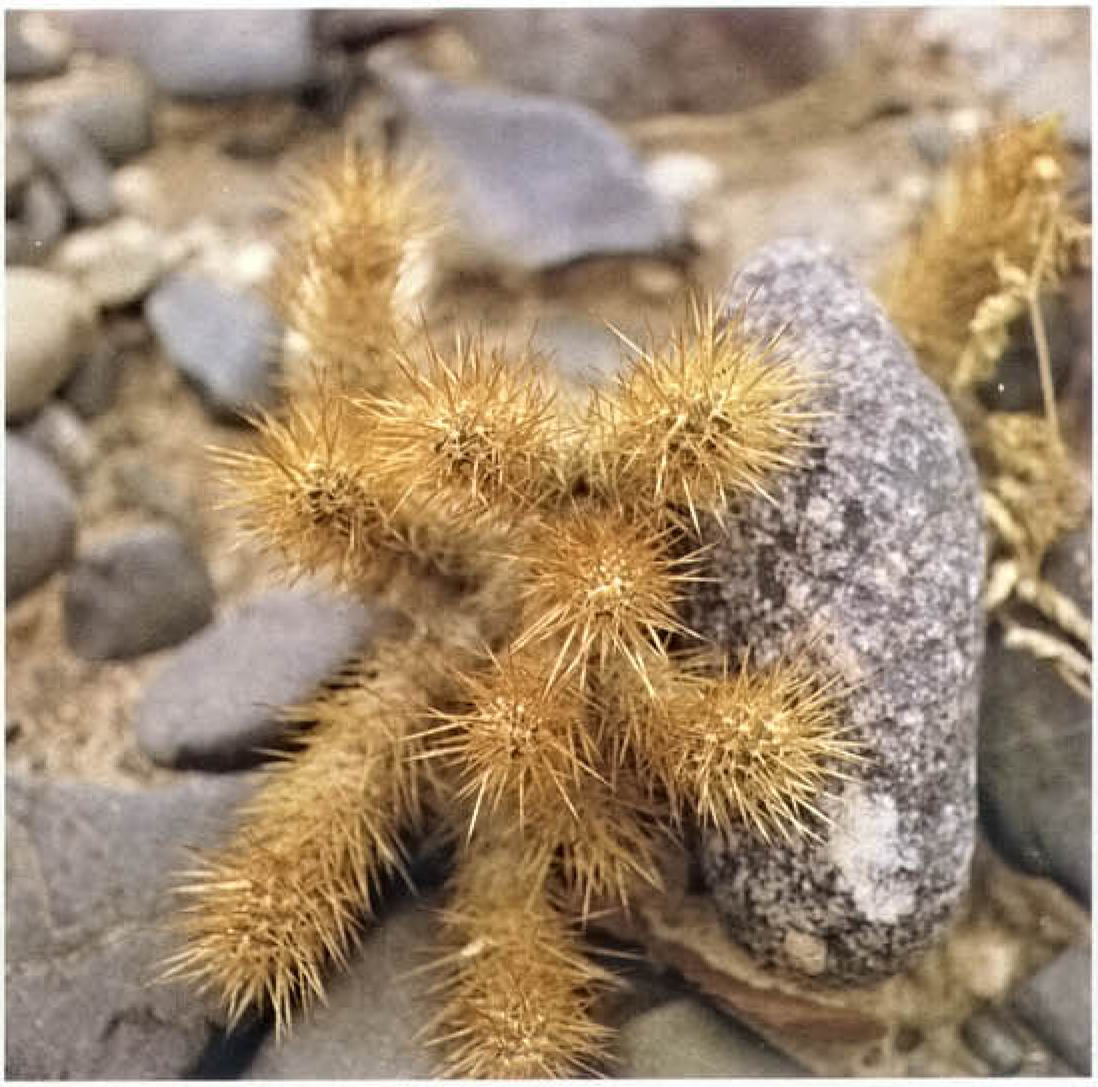
TEPHROCACTUS **MOLINENSIS** Speg.
Syn: *Opuntia molinensis* Speg.

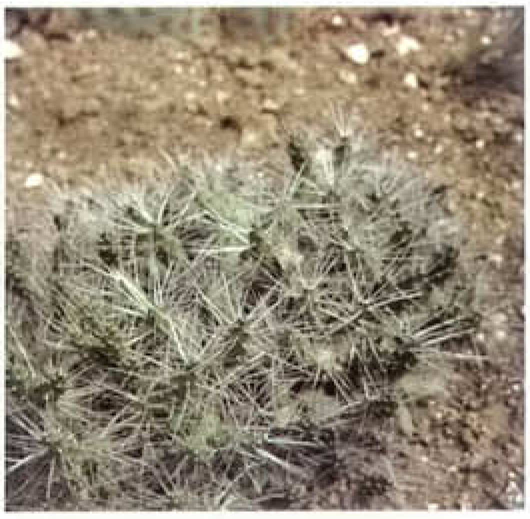
Closely allied to *T. diademata*, it is a cushion-forming species with the grayish-green joints densely crowded together. The stems or joints are 1–1½in long, ⅔–1in thick. Spineless, they are tuberculate and have areoles bearing tufts of grayish glochids. The flowers, day flowering, in summer, are red, and about 1½in in diameter. Needs very slight shade; normal cactus compost; minimum temperature 50°F. *Argentina (Molinos, Salta).*



TEPHROCACTUS **RAUHII** Backeb.
Syn: *Opuntia floccosa* var. *rauhii* Backeb.

The stems of this species are relatively green but covered in dense wool. They are up to 10in long, 3¼in thick, often generally smaller in cultivation, with minute areoles and one yellow-tipped white spine to ⅔in long and numerous curly white woolly hairs. The flowers are yellowish, about 1⅓in across, and appear by day, in summer. Requires sun; slightly calcareous cactus compost; minimum temperature 50°F. *Southern Peru.*





TEPHROCACTUS **RUSSELLII** (Br. & R.) Backeb.

A clump-forming species with dull-greenish stems ¾–1½in long. The areoles are pale yellow with fairly long glochids to ⅒in in length, and there are two to six white or yellowish spines ¾–1in long. Flower details are unknown. Requires bright sunlight; normal cactus compost; minimum temperature 50°F. *Argentina (Mendoza).*

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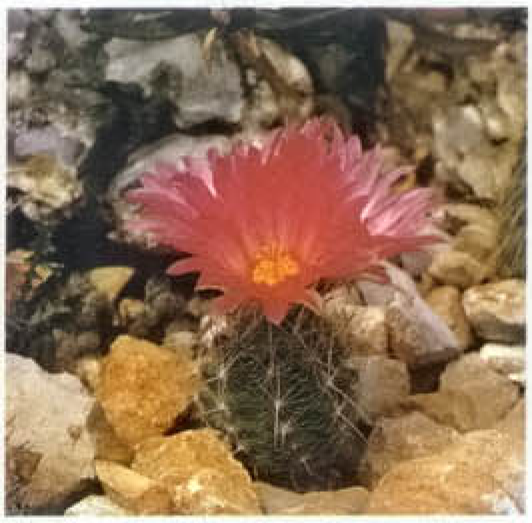
TEPHROCACTUS **WEBERI** (Speg.) Backeb.

A clump-forming species with clusters up to 6in or more high, 1ft broad. The dark green joints are up to 2½in long, ¾in thick, with closely set areoles each bearing five to seven brown to reddish-brown spines about 2in in length and more or less upward pointing. Summer flowering, and diurnal, the flowers are yellow, about ¾in long. Needs bright light, which is essential; normal cactus compost; minimum temperature 50°F. *Argentina (San Carlos).*



THELOCACTUS **BICOLOR** (Galeotti ex Pfeiff.) Br. & R.
Syn: *Ferocactus bicolor* (Galeotti ex Pfeiff.) N. P. Taylor; *Echinocactus bicolor* Galeotti

A bluish-green species, globular to cylindrical in shape and up to 4in in diameter. It has eight to thirteen straight or slightly spiraled ribs with areoles bearing eight to thirteen reddish, radial spines up to 1in long, and four slightly flat red centrals, 1⅓in. Flowers are diurnal, in summer, up to 2½in long and across, and a dark violet red. Requires a bright sunny position; normal cactus compost; minimum temperature 50°F. *USA (Texas), Mexico (Central).*

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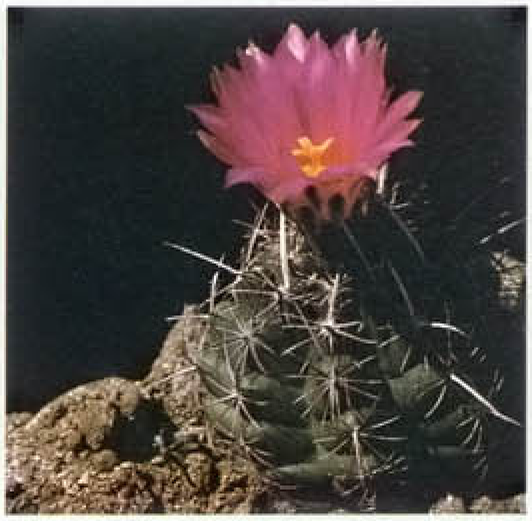

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THELOCACTUS **BICOLOR var. TRICOLOR** K. Sch.

Possibly only a color form of the species. The stems are densely spiny, with red, deep-orange, or red and white spines. Flowers also differ in color; these are deep reddish or more rarely white, and about 2½in in diameter. Requirements are the same as for the species. *Northern Mexico.*

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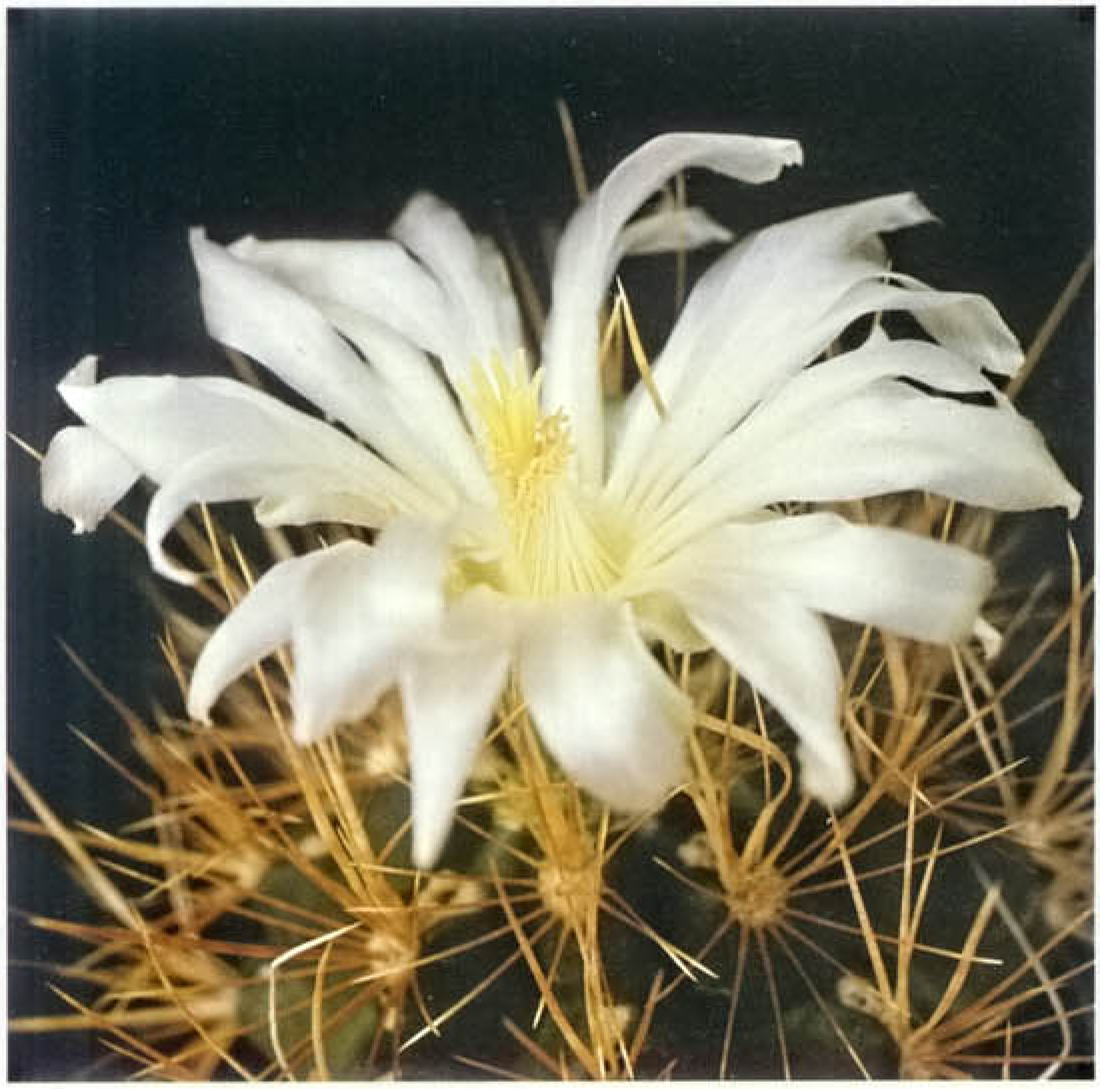

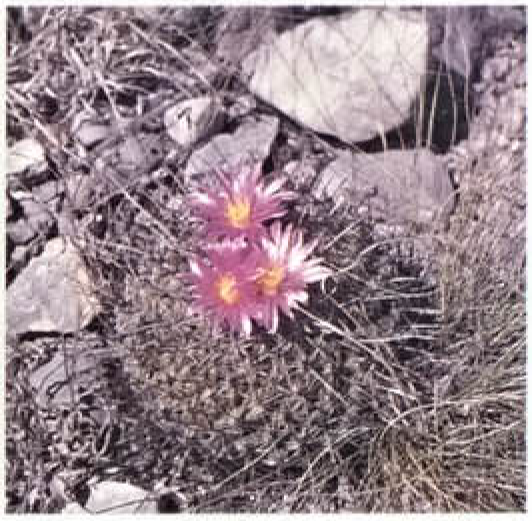

THELOCACTUS **CONOTHELE** (Regel & Klein) F. Knuth
Syn: *Echinocactus conothelos* Regel & Klein

The grayish-green stems are more or less globular to short cylindrical, 4in high, to 3in in diameter. There are 10–12 slightly spirally arranged tuberculate ribs, and 14–16 white radial spines to ⅔in long with two to four pale-brownish centrals ⅔–1⅓in in length. Day flowering in summer, the flowers are a rich purple, 1⅓in across. Requires full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Tamaulipas).*

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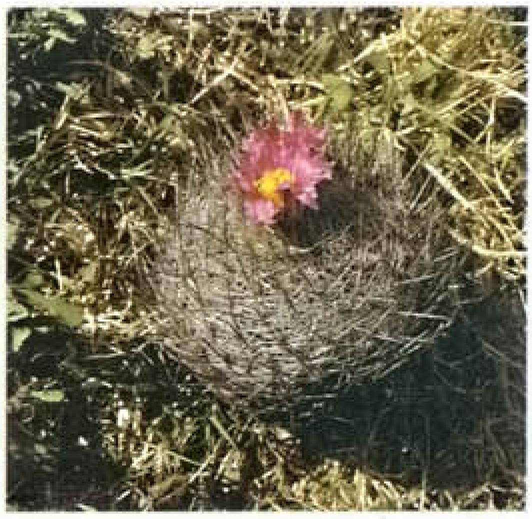

THELOCACTUS **CONOTHELE var. ARGENTEUS** Glass & Foster

A pale-green, sub-globose plant up to 3¼in high, 5in thick, with prominent tubercles obscured by silvery white spines: there are about 20 radials ⅔–1in long, and four creamy-white centrals to 2in in length. The flowers are a pinkish purple, 1⅓–1½in across, and appear by day in summer. Requirements are the same as for the species. *Mexico (Nuevo Leon).*

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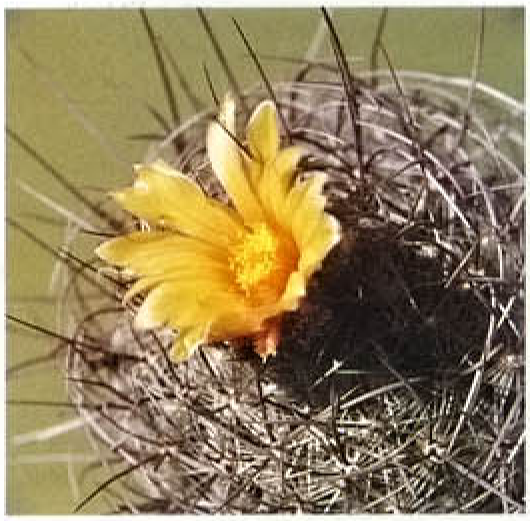

THELOCACTUS **CONOTHELE var. AURANTIACUS** Glass & Foster

Similar in most respects to the species, this variety is 4in high, 4¼in wide, and pale green with ribs divided into prominent tubercles. There are 17–23 yellowish-white radial spines ½–¾in long, and four grayish-brown centrals ¾–2¼in in length. Flowers, diurnal, and summer blooming, are bright yellow, about 1⅓in long. Requirements are the same as for the species. *Mexico (Nuevo Leon).*

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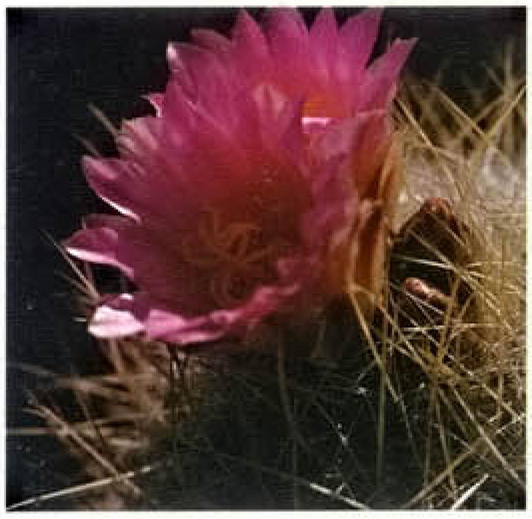

THELOCACTUS **CONOTHELE var. MACDOWELLII** (Rebut ex Quehl) Glass & Foster
Syn: *Echinomastus macdowellii* (Rebut) Br. & R.; *Neolloydia macdowellii* (Rebut) H. E. Moore

Dull-green globular plants 4–5in in diameter, with about 30 ribs. Radial spines number 15–27, and are white, to 1in in length; there are three to four yellowish, flattened centrals, 1–2¼in long. The deep-pink flowers are day flowering in summer, and are 1½–2in long. Requirements are the same as for the species. *Mexico (Nuevo Leon, Coahuila).*

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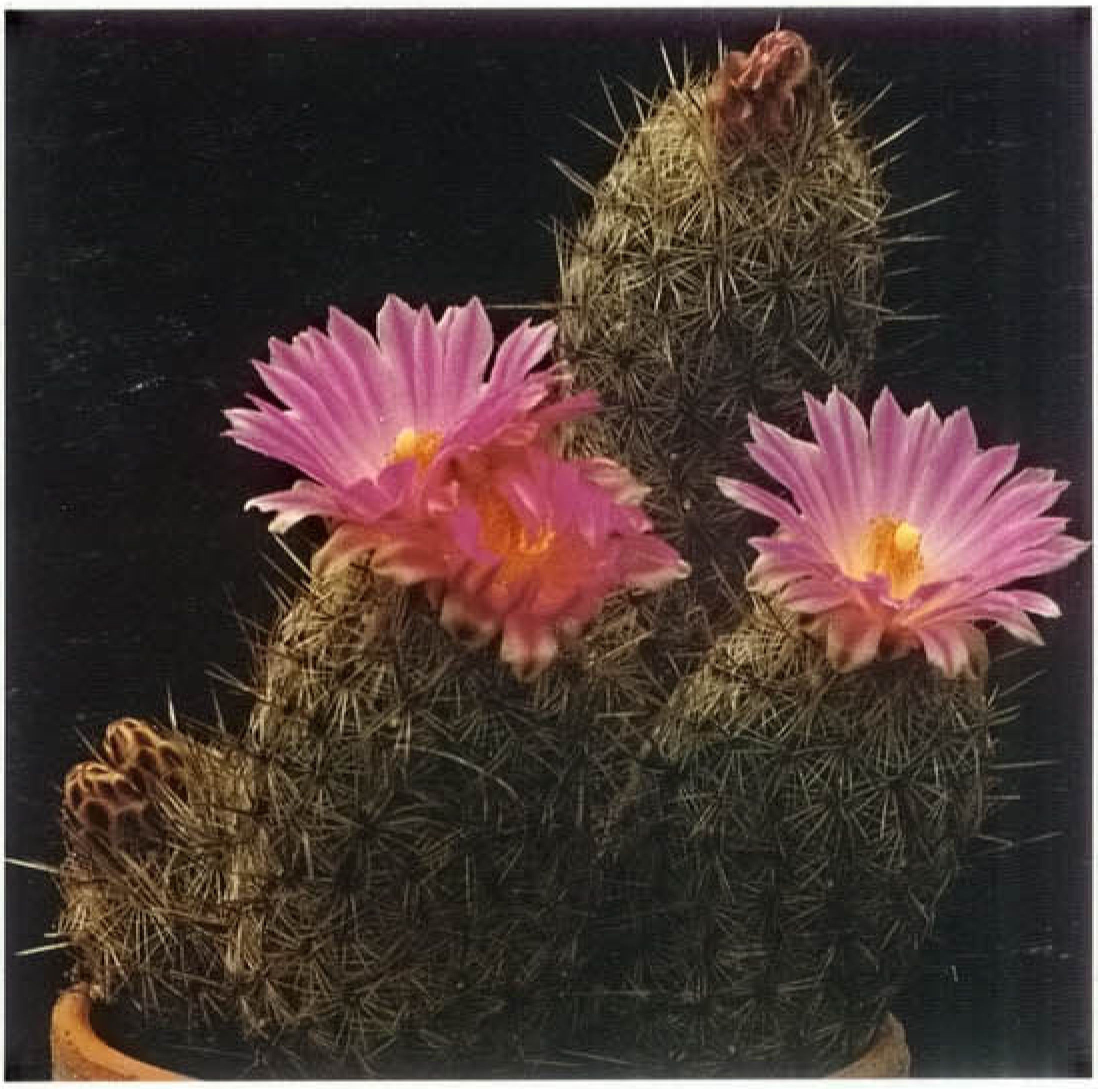

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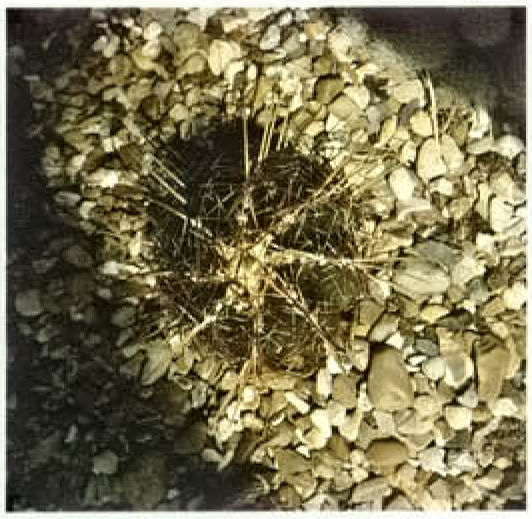

THELOCACTUS **FLAVIDISPINUS** Backeb.
Syn: *Ferocactus bicolor* var. *flavidispinus* (Backeb.) N. P. Taylor

Rather similar to *T. bicolor*, this plant is a dark brownish green with about 8–13 ribs. There are 12–20 pale to darker brown spines, including one central, up to 1½in long. Summer flowering, and diurnal, the flowers are purplish red, and about 2in in diameter. Needs sun; normal cactus compost; minimum temperature 50°F. *USA (Texas).*

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THELOCACTUS **HASTIFER** (Werd. & Böed.) F. Knuth
Syn: *Ferocactus hastifer* (Werd. & Böed.) N. P. Taylor

A pale grayish-green globular, solitary species, only rarely offsetting, 4–6in high, 2½–3½in thick. It has 18–20 tuberculate ribs and white woolly areoles when young. The spines are white: 20–25 radials to ⅔in long and four centrals to 1in in length. Summer flowering, and diurnal, the flowers are pinkish with a violet-pinkish center to the petals. Requires full sun; normal cactus compost with a little lime added; minimum temperature 50°F. *Mexico (Coahuila, Nuevo Leon).*

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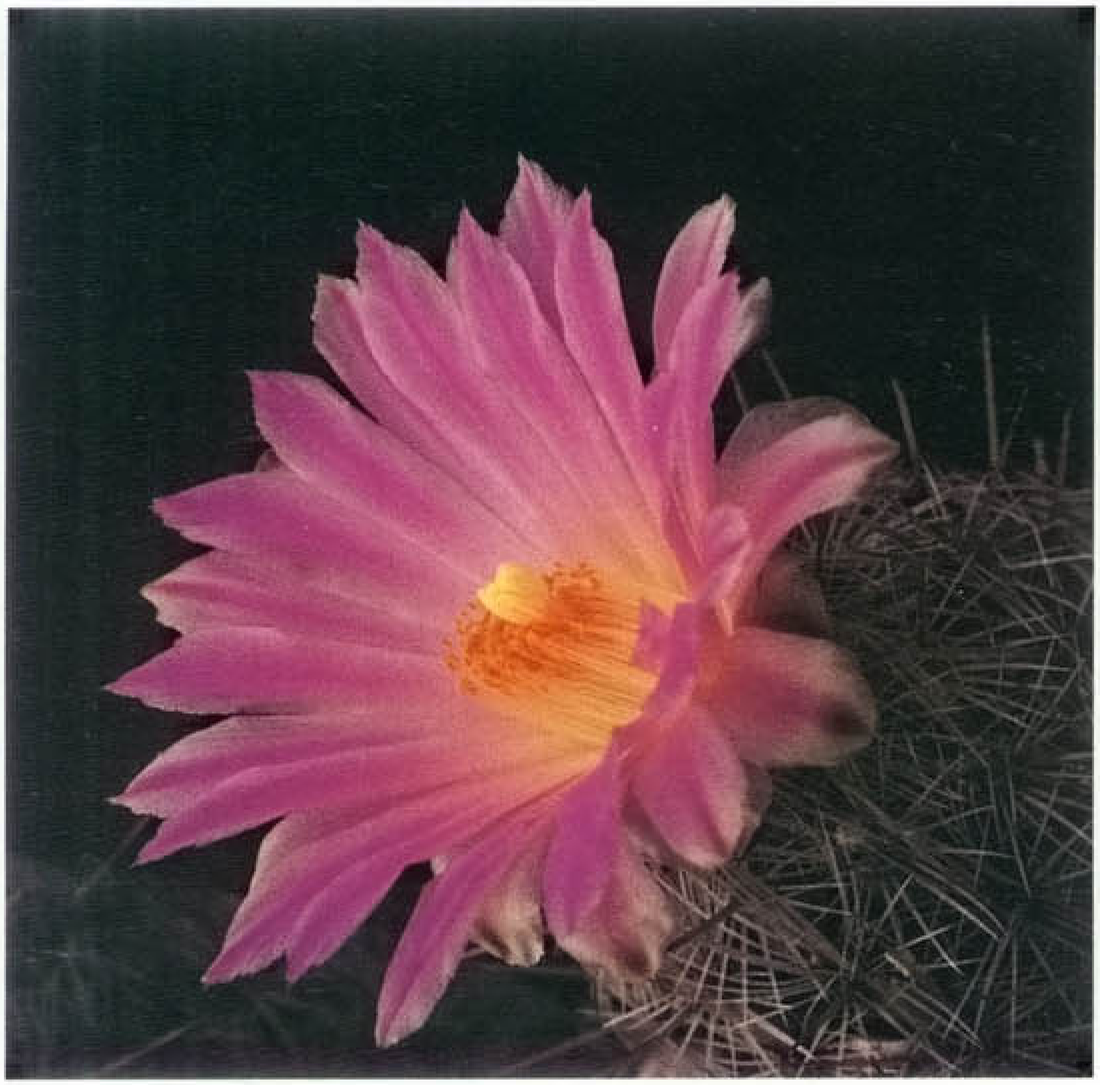

THELOCACTUS **HASTIFER**

THELOCACTUS **HETEROCHROMUS** (Weber) van Oosten
Syn: *Ferocactus heterochromus* (Weber) N. P. Taylor; *Echinocactus heterochromus* Weber

A semi-globular, solitary glaucous-green species up to about 6in in diameter with eight to nine tuberculate ribs. The spines are brownish with reddish and yellowish markings; there are seven to ten radials ¾–1in long and one to three centrals to 1½in in length. Flowers, pale violet with a deeper throat and up to 2½in long, appear by day. Requires sunshine; normal cactus compost; minimum temperature 50°F. *Mexico (Coahuila).*

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THELOCACTUS **HEXAEDROPHORUS** (Lem.) Br. & R.

A bluish- to grayish-green more or less globular plant, rarely offsetting, about 6in thick. The 12–13 ribs are divided into six-sided tubercles and there are six to nine yellowish radial spines up to ¾in long and one central, which is often absent, to 1in. Flowers are pinkish with a prominent creamy-white center, and 2½in long; these appear by day, in summer. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (San Luis Potosi).*

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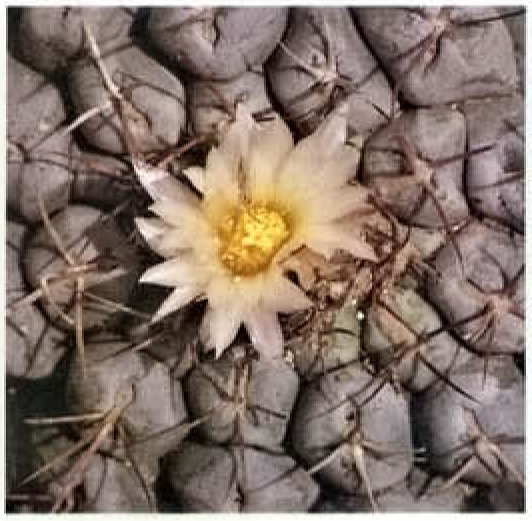

THELOCACTUS **HEXAEDROPHORUS var. FOSSULATUS** (Scheidw.) Backeb.
Syn: *Thelocactus fossulatus* Br. & R.; *Thelocactus hexaedrophorus* var. *decipiens* Berger

The dark grayish-green or bluish-green stems are about 6in thick, with brown or yellowish radial spines 1–1⅓in long and one central 1¾in in length. Flowering in summer, by day, the flowers are almost white with faint, pale-pink suffusions, and are about 1¾in across. Requirements are the same as for the species. *Mexico (San Luis Potosi).*

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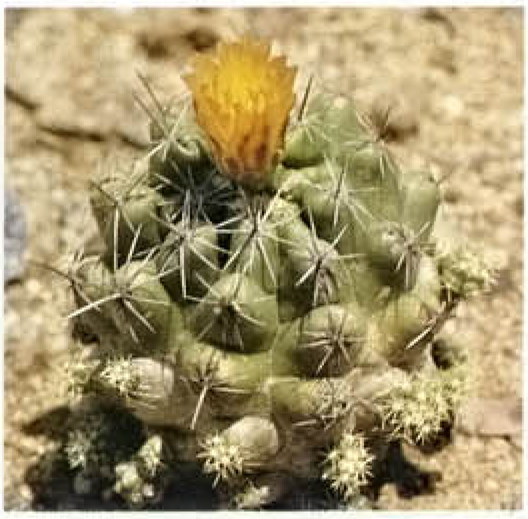

THELOCACTUS **LEUCACANTHUS** (Zucc.) Br. & R.
Syn: *Ferocactus leucacanthus* (Zucc.) N. P. Taylor

A short cylindrical plant up to 6in high, 3¼in in diameter, later offsetting. The pale green stems are divided into eight to thirteen ribs consisting of conical tubercles about ½in high. There are seven to twenty yellowish to grayish radial spines up to 1in long and one central. Day flowering in summer, flowers are a pale to deep yellow, 1½–2in long. Requires a sunny location; slightly calcareous cactus compost; minimum temperature 50°F. *Mexico (Hidalgo).*

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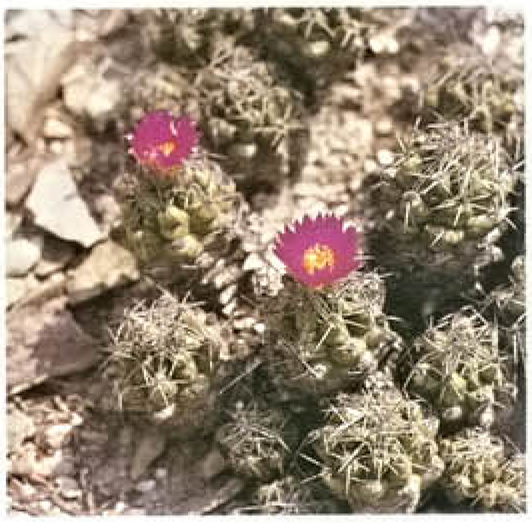

THELOCACTUS LEUCACANTHUS var. SCHMOLLII Werd.

Syn: *Thelocactus schmollii* Werd.

A smaller, grayish-green globular plant which is group forming. It has about 12 tubercled ribs and many grayish-white spines: six or more radials, often one central, all to about ⅔in long. Flowers are a deep violet red, about 1½in long. Requirements are the same as for the species. *Mexico (Queretaro).*

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THELOCACTUS RINCONENSIS (Pos.) Br. & R.

A solitary plant, gray-green or bluish-green and about 4¾in in diameter, 2½–3¼in high. It has white wool in the crown and usually 13 ribs divided into conical compressed tubercles with three to four grayish-brown or brownish-black spines up to ⅔in long. An early summer, day flowering species, the flowers white with tinges of rose pink and about 1½in long. Requires sun; a calcareous cactus compost; minimum temperature 55°F. *Mexico (Nuevo Leon).*

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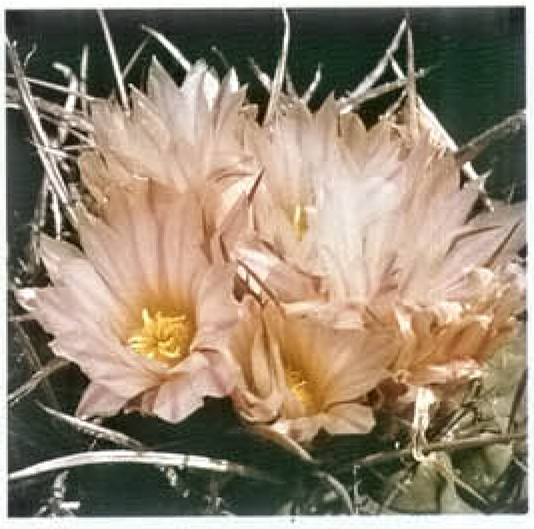

THELOCACTUS RINCONENSIS var. NIDULANS (Quehl) Glass & Foster

Syn: *Thelocactus nidulans* (Quehl) Br. & R.

The stems, to 8in in diameter, are generally solitary with up to 20 ribs and large tubercles to ¾in high. There are five to eleven radial spines, usually about ⅛in long, occasionally up to 1in in length, and generally four central spines to 2½in long; these are brownish becoming gray. Day flowering in summer, the flowers are whitish with a pinkish midstripe, and 1½in long, 1¾in across. Needs very bright light; calcareous cactus compost; minimum temperature 50°F. *Mexico (Southern Coahuila).*

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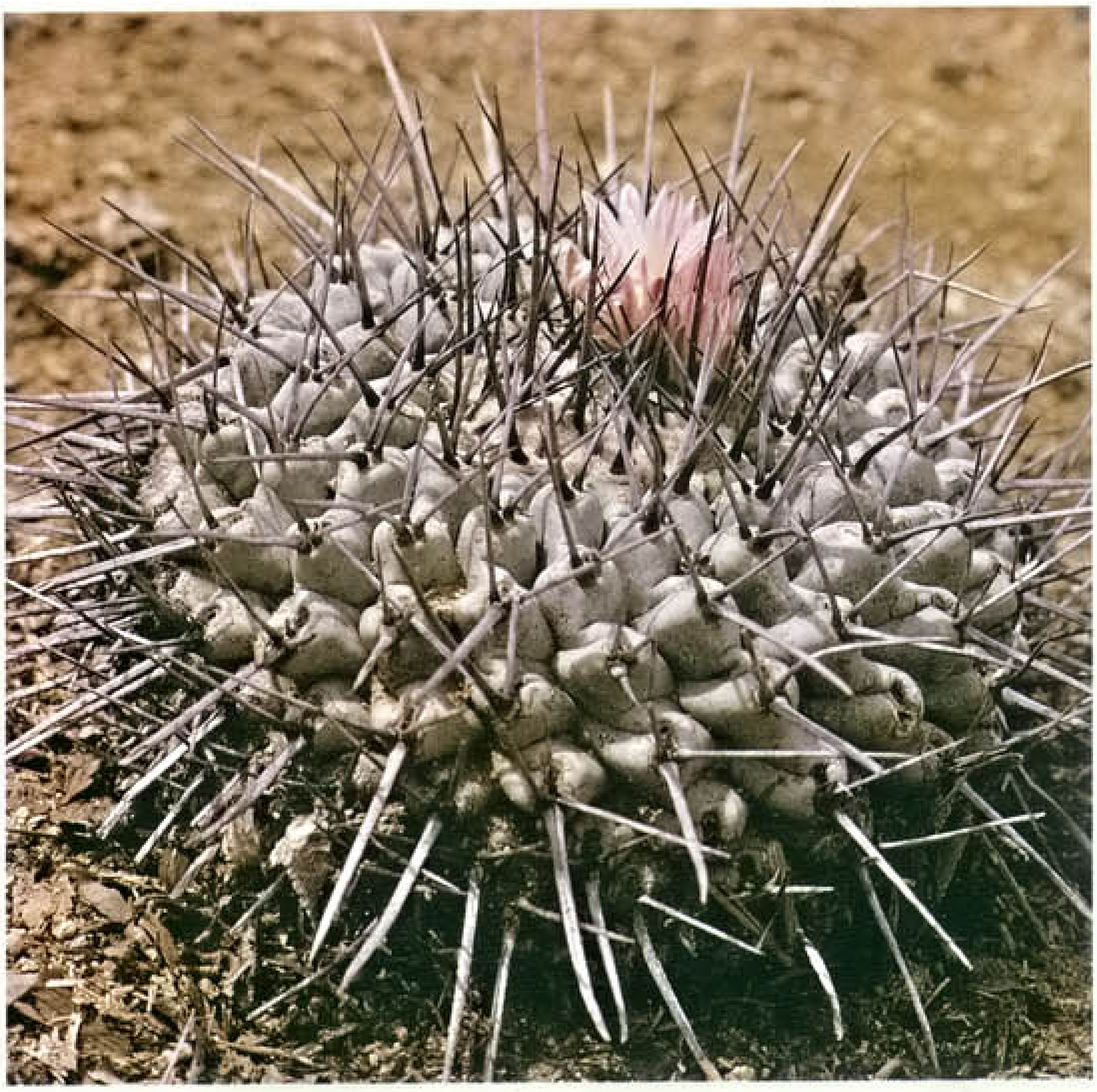

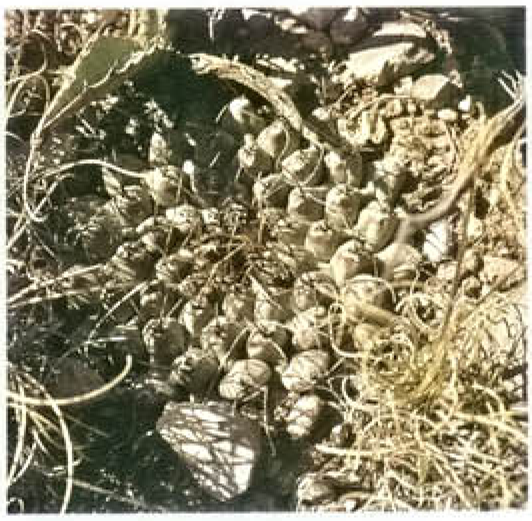

THELOCACTUS RINCONENSIS var. PHYMATOTHELE (Pos.) Glass & Foster

Syn: *Thelocactus phymatothelos* Pos.

Mostly a solitary plant, it is 3½–6in in diameter with a compressed top, grayish-green in color. It has 13 ribs divided into very prominent angled tubercles, each up to about ½in high. There are one to three very short spines, which may be absent; where present they are usually ⅒in, rarely up to ¾–1in in length. Flowers are white with a pinkish midstripe, about 1½in in diameter, and appear by day in summer. Requirements are the same as for the species. *Mexico (Coahuila).*

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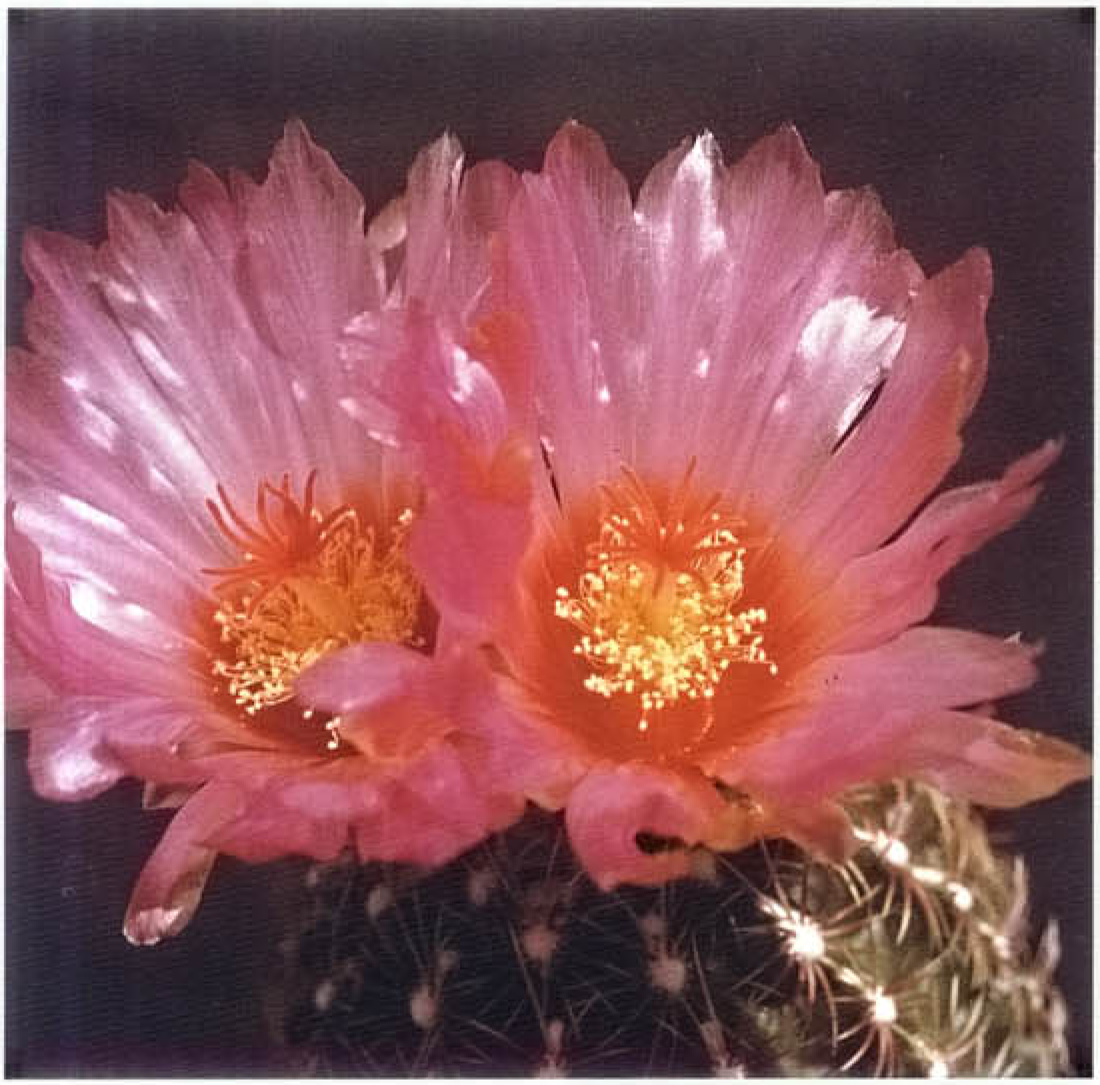

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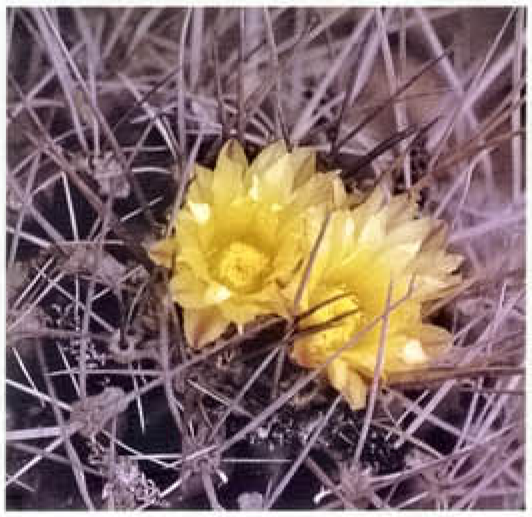
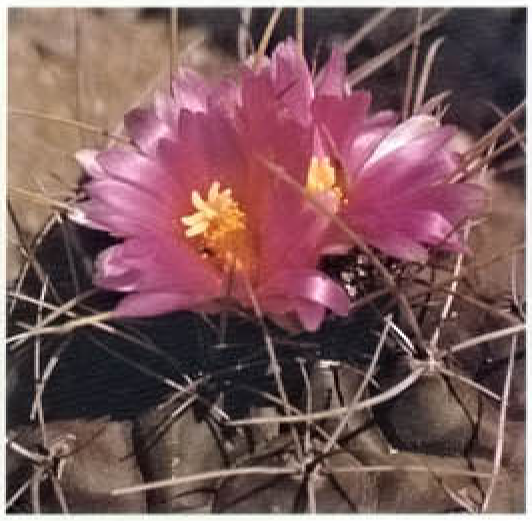
THELOCACTUS **SCHWARZII** Backeb.
Syn: *Thelocactus macrochele* var. *schwarzii* (Shurly) Kladiwa

Bluish-green globular plants up to about 2½in high, 2¼in in diameter with about 13 ribs. The areoles are whitish, bearing 13–14 reddish, yellowish-tipped radial spines to ¾in long, but no centrals. Day flowering in summer, the flowers are pale reddish purple, and up to 3¼in in diameter. Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Tamaulipas).*



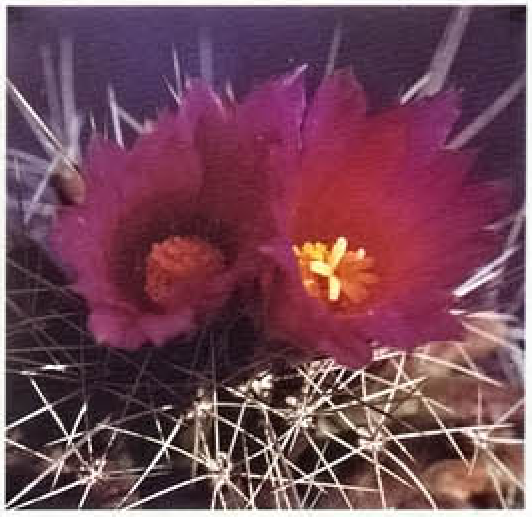
THELOCACTUS **TULENSIS** (Pos.) Br. & R.
Syn: *Thelocactus tulensis* var. *"longispinus"* nom nud.

The stems are dark grayish green, globular, and 4¾–10in high. It has eight to thirteen ribs divided into close-set, conical tubercles up to ¾in high. There are six to eight whitish radial spines, ½–⅔in long; centrals, where present, are up to 1in in length. Flowering in daytime, in summer, the flowers are about 1in long, and are pinkish with a reddish midstripe, more rarely yellowish (as shown). Requires sun; normal cactus compost; minimum temperature 50°F. *Mexico (Tamaulipas, San Luis Potosi).*



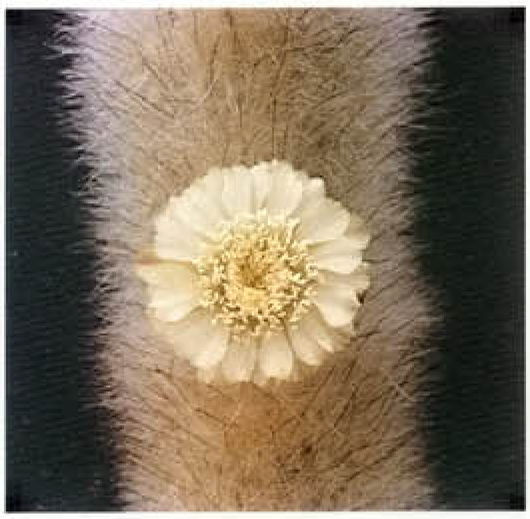
THELOCACTUS **TULENSIS var. BUECKII** (Klein) E. F. Anderson
Syn: *Thelocactus bueckii* (Klein) Br. & R.

Sometimes spelt *"buekii."* The brownish-green stems are mostly solitary, depressed globose in shape, and 6–7in in diameter. Ribs are divided into distinct, pointed, angular tubercles up to 1in wide at the base. Spines, orangey brown becoming grayish, consist of seven to ten radials ⅔–1in or more long and one or two centrals to 2¼in in length. The dark purplish-red flowers, up to 2in long and wide, are diurnal, in summer. Requirements are the same as for the species. *Mexico (Tamaulipas).*



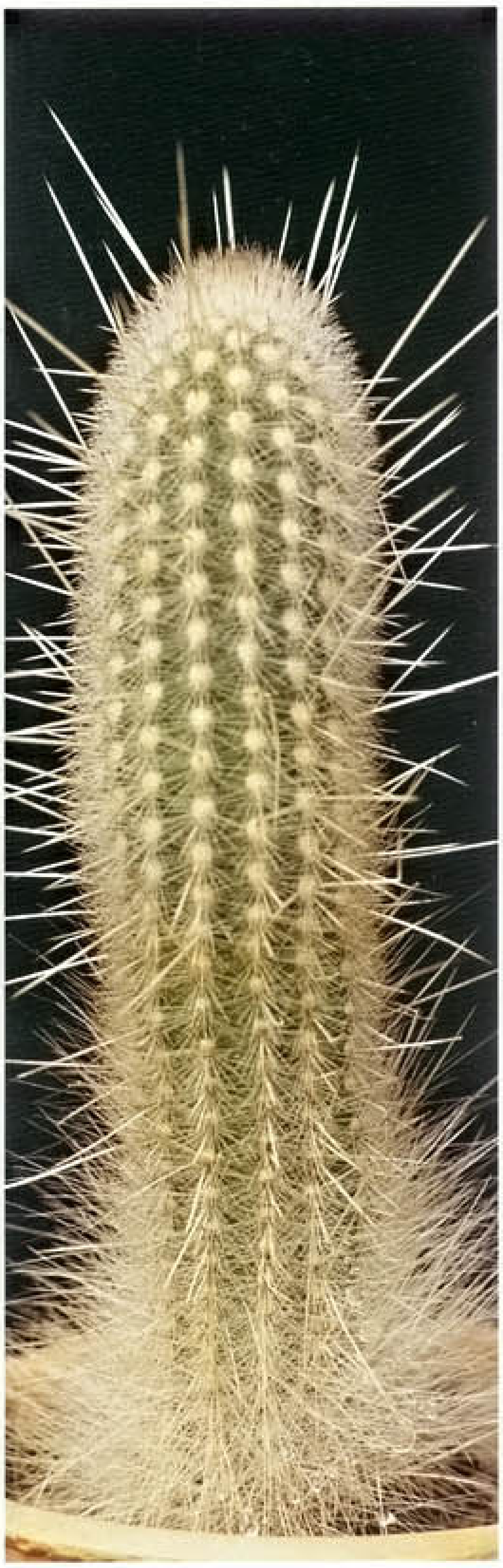
THELOCACTUS **TULENSIS var. MATUDAE** (Sanchez-Mejorada & Lau) E. F. Anderson
Syn: *Thelocactus mutadae* Sanchez-Mejorada & Lau

The plant has glaucous-green stems 4¾–6⅓in in diameter with long, prominent tubercles ¾–1in long. Spines are whitish or brownish: about seven radials to ⅔in long and four centrals to ¾in in length. Flowers are a deep vivid purple-pink, up to 3¼in wide, and are diurnal, in summer. Requirements are similar to those for var. *bueckii. Mexico (Tamaulipas).*



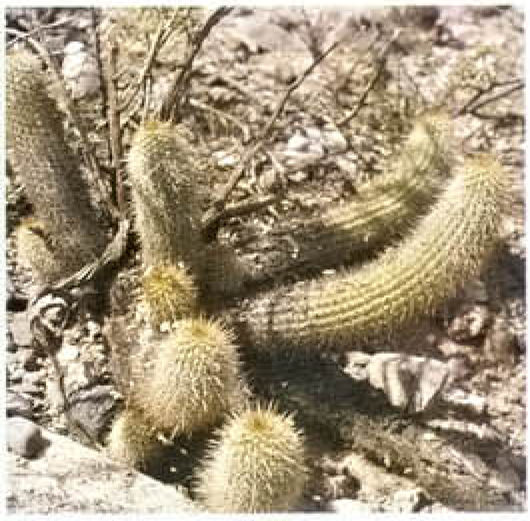
THRIXANTHOCEREUS **BLOSSFELDIORUM** (Werd.) Backeb.
Syn: *Espostoa blossfeldiorum* (Werd.) Buxb.

A tall, erect, columnar plant up to 13ft high, rarely branching. The stems are about 4in thick and there are 18–25 ribs with closely set, woolly areoles. These bear 20–25 radial spines about ⅓in long, and six to seven dark-brown centrals to 1in long. A pseudocephalium develops once the plant is about 2–2½ft high; this consists of dense tufts of yellowish-white hairs and numerous white or dark-brown bristles. Creamy-white nocturnal flowers appear in mid-summer, up to 2½in long. Requires sun and warmth; normal cactus compost; minimum temperature 55°F. *Northern Peru.*



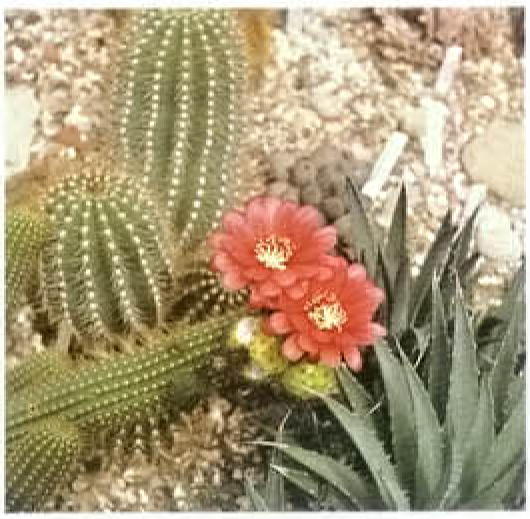
THRIXANTHOCEREUS **CULLMANNIANUS** Ritter

A grayish-green columnar plant to 6½ft high, with stems 1–2½in thick and 18–24 ribs. White woolly areoles bear numerous very fine, thread-like white, sometimes brown-tipped, spines from ⅕–1in in length. The lateral cephalium forms once the plant is about 1½ft high and is composed of dense whitish or brownish spines, which are ½–1in long. Summer flowering, the flowers are nocturnal, white, and 1½–2½in long. Needs bright light; slightly calcareous cactus compost; minimum temperature 55°F. *Northern Peru (Cajamarca).*



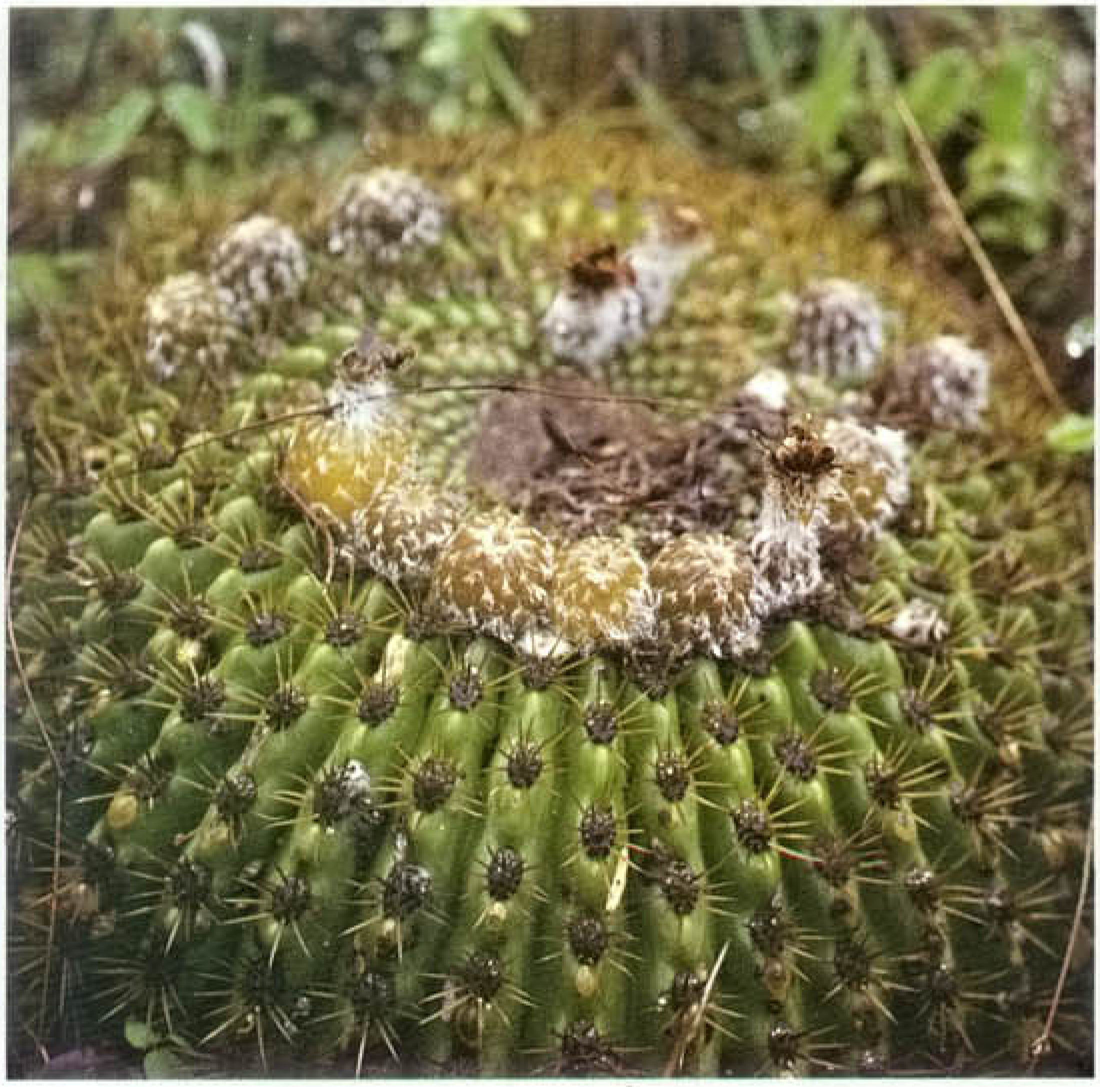
TRICHOCEREUS **ANGELENSIS** (Weber) Kreuringer
Syn: *Lobivia andalgalensis* (Weber) Br. & R.; *Helianthocereus andalgalensis* (Weber) Backeb.

The grass-green stems are about 1ft long, 2–3½in thick, with 13–17 ribs. Areoles are brownish white and fairly close-set with eight to eleven golden-yellow radial spines and one or two longer centrals to 1in. Summer flowering, and diurnal, the flowers are bright red, about 2½in or a little more long. Requires a sunny position; normal cactus compost; minimum temperature 50°F. *Argentina (Catamarca).*



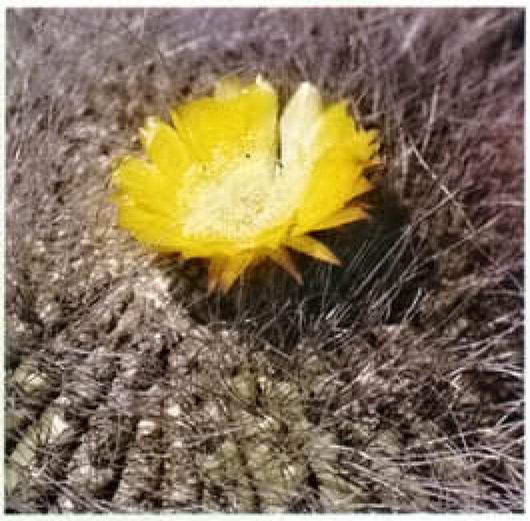
TRICHOCEREUS **ANGELESII** Kiesl.

A somewhat sprawling, cylindrical-shaped, dull-greenish species with stems about 2ft or more in length, branching from the base. It has 20 or more ribs and the areoles bear brown spines which become more yellowish. Little is known of this plant and it is not generally in cultivation. Flowers are unknown. Where they are available, the plants need full sun; normal cactus compost; minimum temperature 50°F. *Argentina (Salta).*



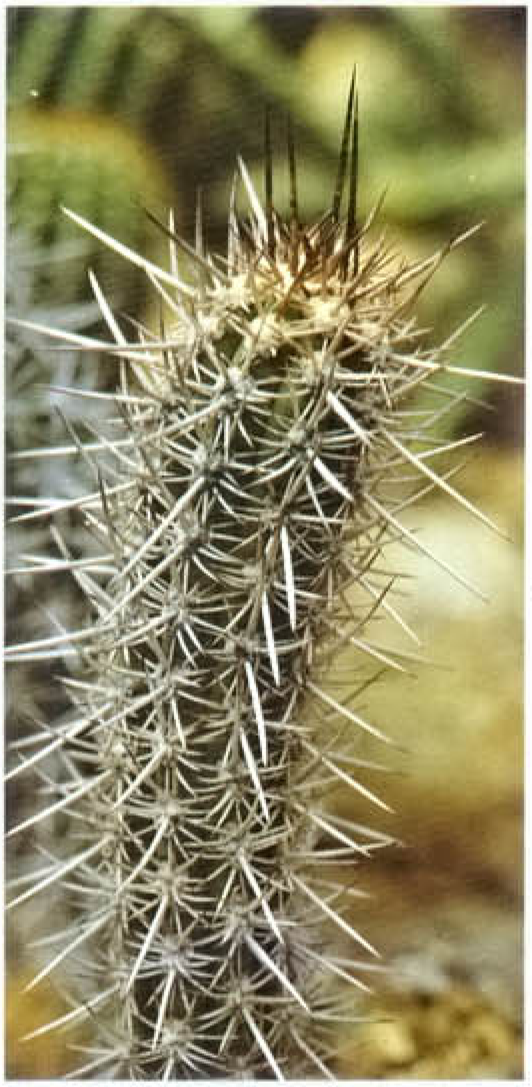
TRICHOCEREUS **BRUCHII** (Br. & R.) Ritter
Syn: *Soehrensia bruchii* (Br. & R.) Backeb.

A dark-green globular to somewhat elongating plant up to about 8in in diameter. It has about 50 ribs with large, brownish-white areoles and pale-brownish spines: nine to fourteen radials and about four centrals up to ¾in long. The flowers are deep red, about 2in in diameter, and come out by day, in summer. Needs sun; normal cactus compost; minimum temperature 50°F. *Argentina (Jujuy, Catamarca).*



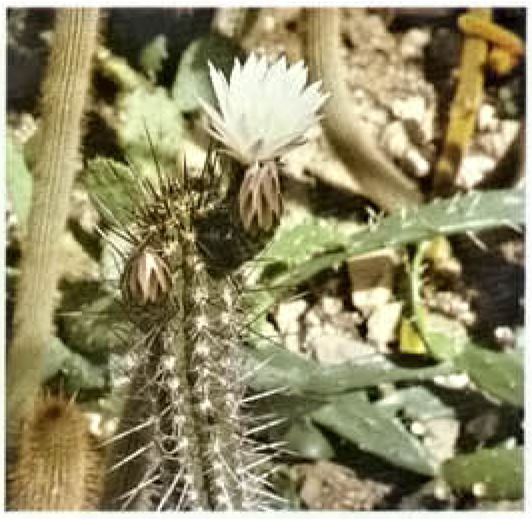
TRICHOCEREUS **FORMOSUS** (Pfeiff.) Ritter
var. MAXIMA (Backeb.)
Syn: *Soehrensia formosa* (Pfeiff.) Backeb. var. *maxima* Backeb.

A grayish-green, more or less cylindrical plant reaching over 6½ft high in its habitat, and 1ft 3in in diameter, with 15–35 or more ribs. The spines are yellowish brown: eight to sixteen very fine, flexible radials and five to eight centrals about 3in in length. Day flowering, in mid-summer, the flowers are bright yellow and about 3¼in long. Needs bright sun; normal cactus compost; minimum temperature 50°F. *Northern Argentina.*



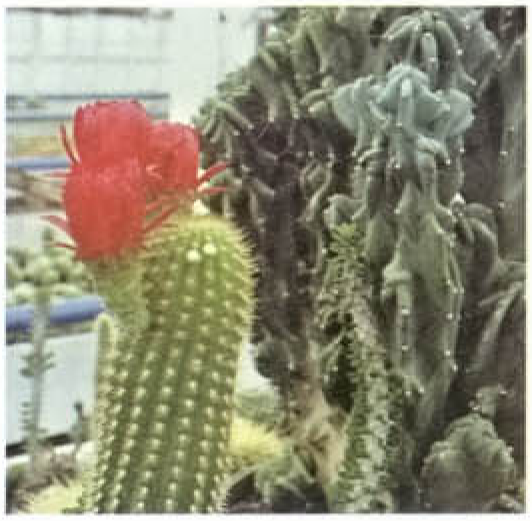
TRICHOCEREUS **CHILOENSIS** (Colla) Br. & R.

A dull-green, variable species of columnar growth to about 10ft tall and 4¾in thick. It has 10–15 ribs with large, whitish areoles set below prominent notches, about ¾in apart. The spines are yellowish, later grayish, consisting of eight to twelve radials to 1½in long, and one to four centrals 2in or more in length. Flowers are borne laterally in summer, and are nocturnal; they are white with greenish, brown-edged outer segments and about 6in long. Needs good light; normal cactus compost; minimum temperature 50°F. *Chile.*



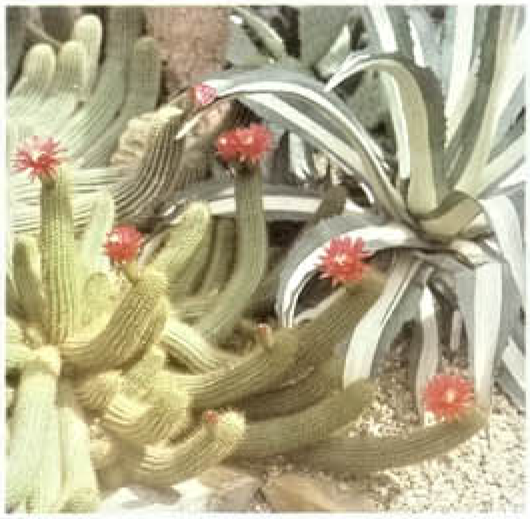
TRICHOCEREUS **FULVILANUS** Ritter

A dark grayish-green columnar species 3ft–4ft 9in tall with stems 1½–3in thick and eight to thirteen deeply notched ribs. The areoles are large, and white-felted, bearing brownish spines which gradually turn to gray; nine to twelve are radials, ⅔–1in long, and there are two to four centrals 1–6in in length. Nocturnal, and summer flowering, the flowers are white and fragrant, and 3½–4¾in long. Requires a sunny position; normal cactus compost; minimum temperature 50°F. *Chile (Taltal).*



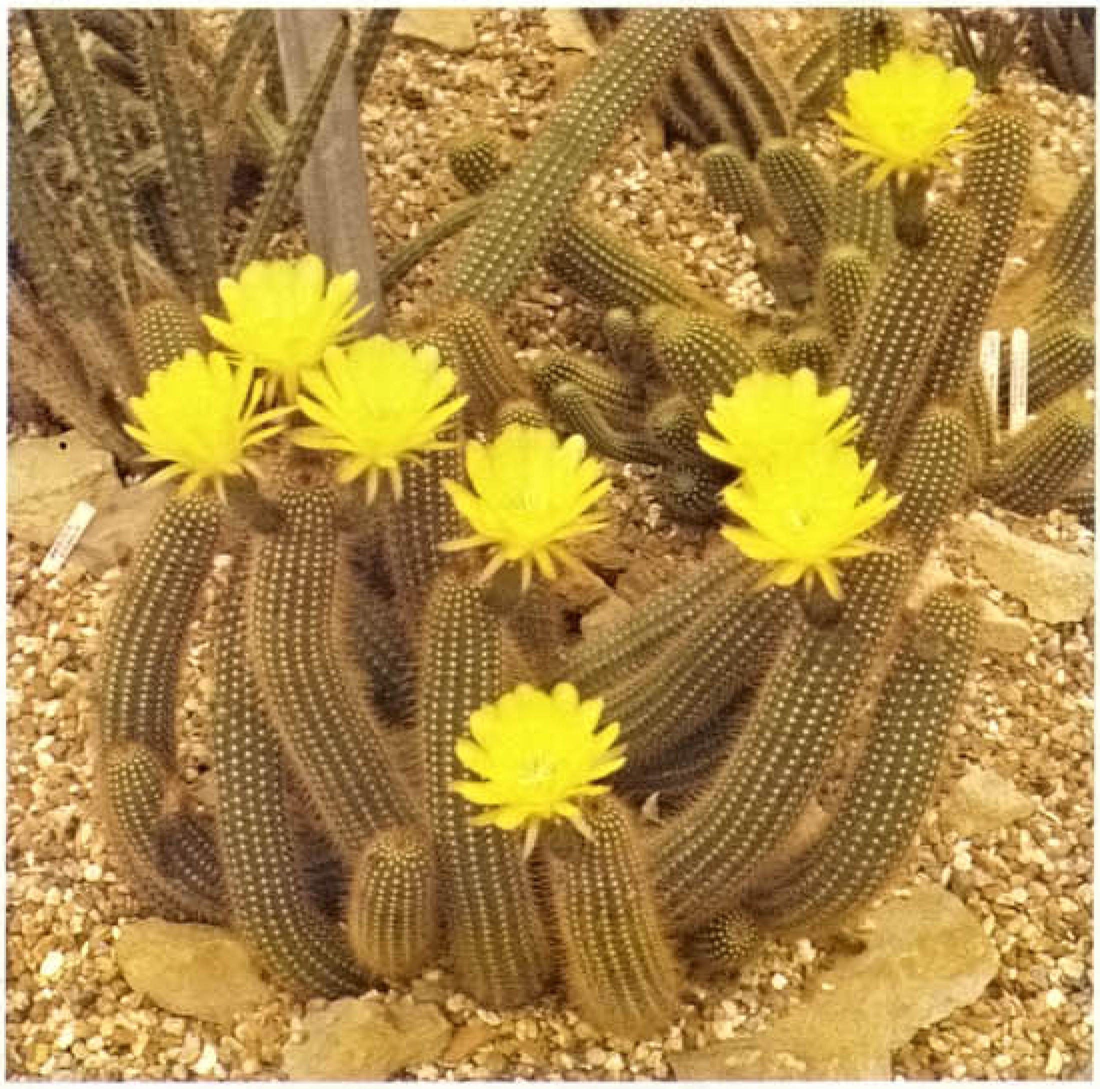
TRICHOCEREUS **GRANDIFLORUS** (Br. & R.)
Syn: *Lobivia grandiflora* Br. & R.; *Helianthocereus grandiflorus* Backeb.; *Trichocereus rowleyi* Kiesling

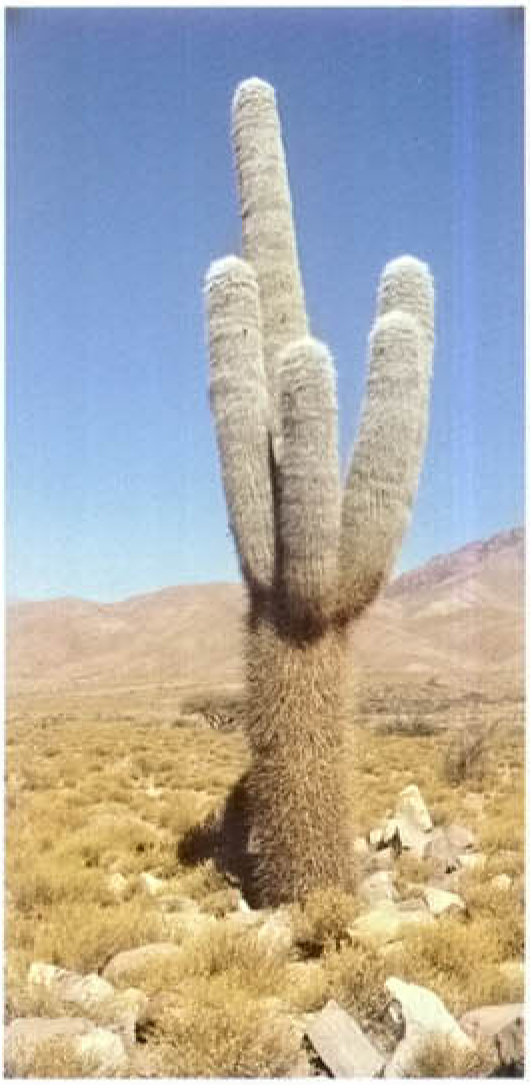
A bright green, mostly solitary plant up to 1ft 2in tall, 2½in thick, with about 14 ribs. Areoles are set about ½in apart with yellowish spines, eight to twelve or more radials, and one central, up to ½in long. Day flowering in mid-summer, the flowers are a deep bright red, and 3¼–4in long. Needs a sunny position; normal cactus compost; minimum temperature 50°F. *Argentina (Catamarca).*

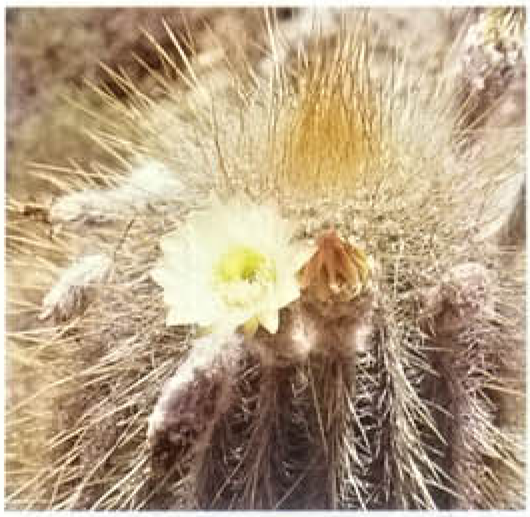


TRICHOCEREUS **HUASCHA** (Weber) Br. & R.
Syn: *Helianthocereus huascha* (Weber) Backeb.; *Echinopsis huascha* (Weber) H. Friedr. & Rowley

A dark-green, much-branching species with stems 1½–3ft tall, 2–3¼in thick, and 12–18 ribs. The whitish-brown areoles are very close-set and bear nine to eleven brownish radial spines to 1½in long, and one or two centrals to 2½in in length. Mid-summer flowering, and diurnal, the flowers are golden yellow (below) or red (above), 3–4in long. Needs sun; normal cactus compost; minimum temperature 50°F. *Argentina (Catamarca).*

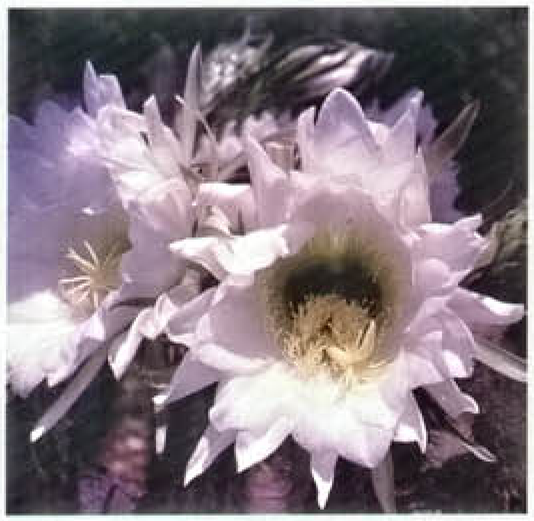






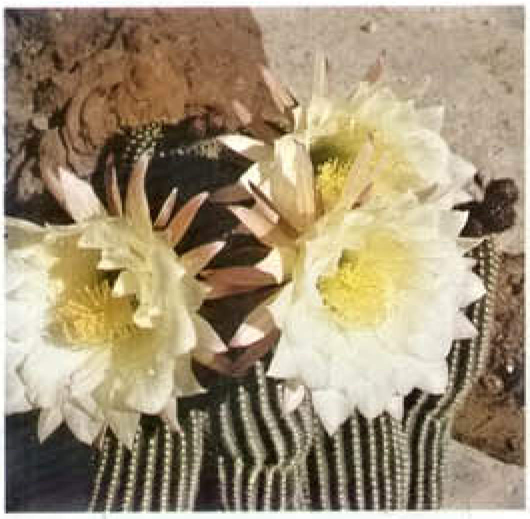
TRICHOCEREUS **PASACANA** (Weber) Br. & R.
Syn: *Cereus pasacana* Weber

A tall, almost giant, species, reaching up to 16ft in its habitat. The stems are 1–1½ft thick, branching from near the base to form a tree-like specimen. It has 15–35 ribs with brownish areoles bearing brownish or reddish-brown spines varying from ⅕–⅔in long. Flowering in summer, and diurnal, the blooms are white and up to 4¾in long. The fruit is said to be edible. Needs full sun; normal cactus compost; minimum temperature 50°F. *Argentina, Bolivia.*



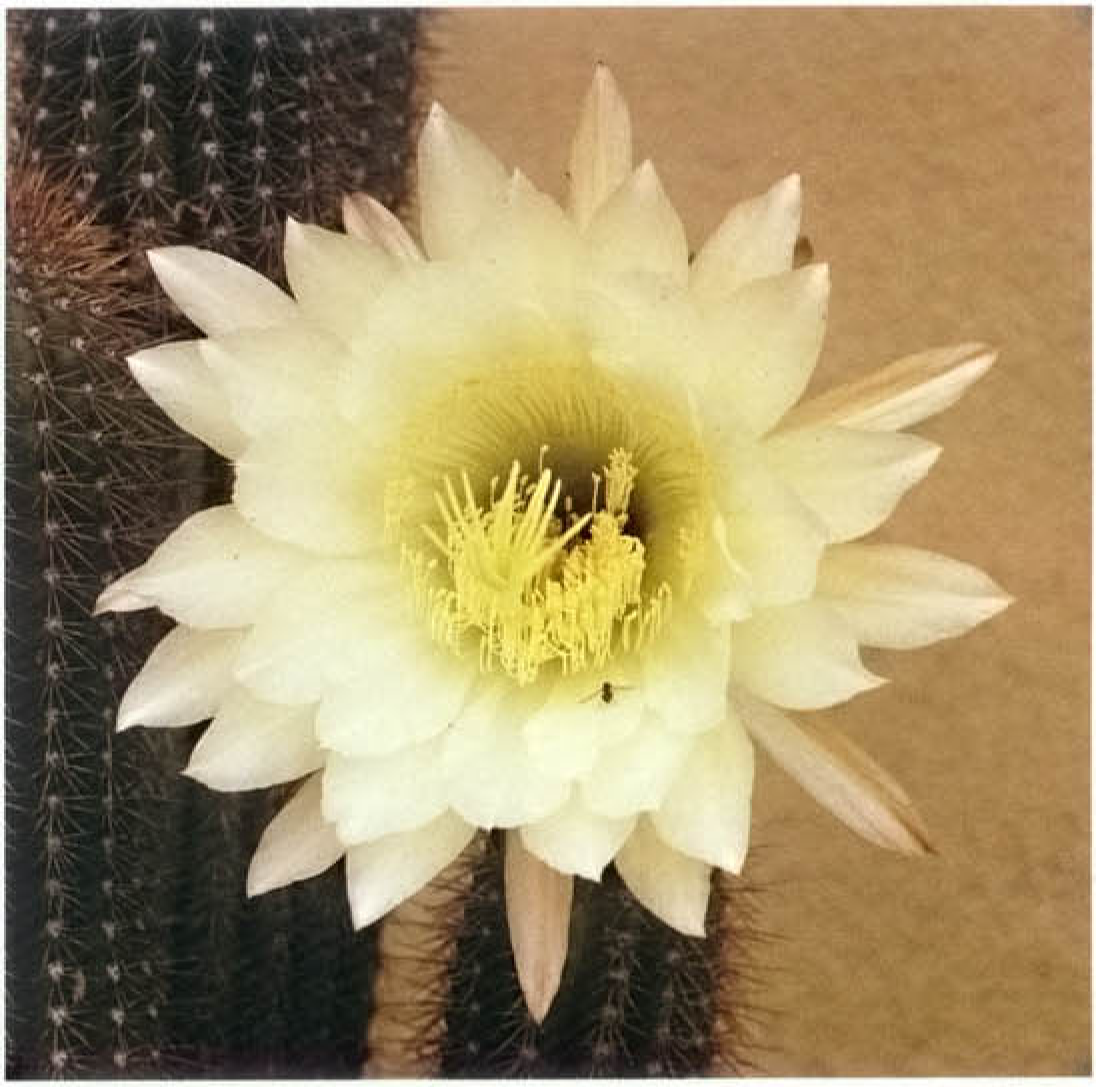
TRICHOCEREUS **SANTIAGUENSIS** (Speg.) Backeb.

A bluish-green columnar plant up to about 23ft high, with stems about 4in thick. It has about 10 ribs with whitish areoles set about ⅔in apart and bearing short radial spines ⅕–½in long, with one central ½–¾in in length. The flowers, appearing by day in summer, are 8in long, funnel-shaped, and creamy white. Needs bright light; normal cactus compost; minimum temperature 55°F. *Argentina.*



TRICHOCEREUS **SHAFERI** Br. & R.

A fairly tall, bright-green plant up to about 1½ft high, 5in thick. It usually has 14 prominent ribs ½in or more high, and the whitish areoles are set ⅕–⅓in apart, bearing about 10 yellowish spines up to ½in in length. White flowers appear in summer and are up to about 6in long. They bloom by day or night. Requires good light; normal cactus compost; minimum temperature 50°F. *Argentina (Salta).*



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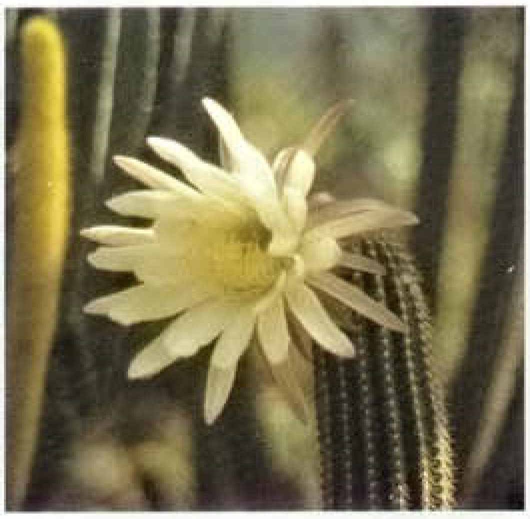
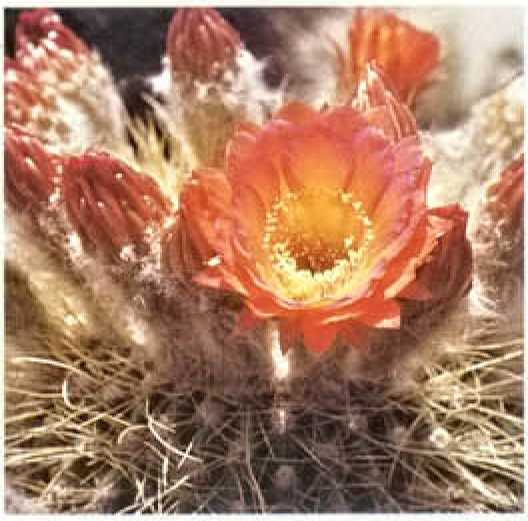
TRICHOCEREUS **SPACHIANUS** (Lem.) Ricco.
Syn: *Echinopsis spachianus* (Lem.) H. Friedr. & Rowley

Tall, dark-green columnar plants up to 6½ft high and to 2½in thick, freely branching from the base, with 10–15 ribs. The areoles are yellowish becoming gray, and bear yellowish-brown spines, 8–10 radials and one, often two or three, centrals all about ½in long. Night flowering in mid-summer, the flowers are about 8in long, to 6in across, with white inner petals and greenish outer segments. Needs a bright position; normal cactus compost; minimum temperature 50°F. *Western Argentina.*



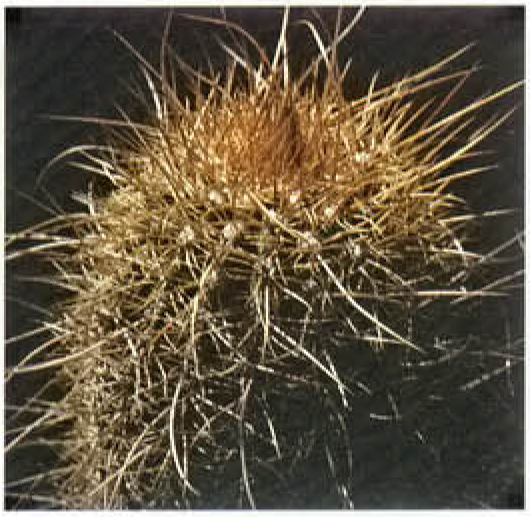
TRICHOCEREUS **SMRZIANUS** (Backeb.) Backeb.
Syn: *Echinopsis smrziana* Backeb.

A dark-green columnar plant 1ft 3in–1ft 7in tall, and up to 6⅓in in diameter, with about 15 broad ribs. The yellowish-brown areoles bear up to 14 whitish or yellowish spines up to ½in long. It flowers in early summer in the late afternoon; the flowers are white, 4¾in long and in diameter. Requires a sunny position; normal cactus compost; minimum temperature 55°F. *Northern Argentina.*



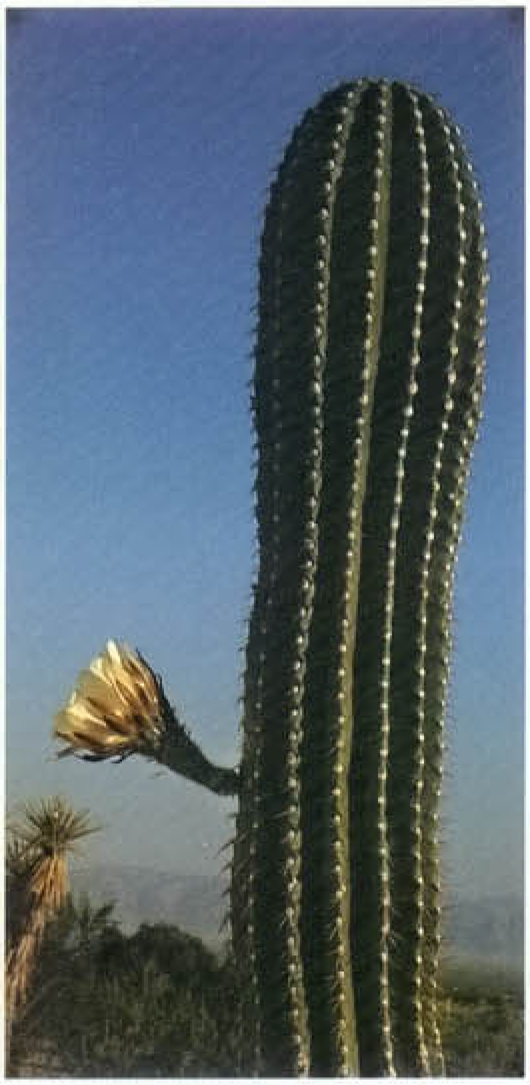
TRICHOCEREUS **TARIJENSIS** (Vaup.) Werd.
Syn: *Cereus tarijensis* Vaup.; *Helianthocereus tarijensis* Backeb.

A dark-green columnar plant up to about 4ft 9in tall, with stems about 10in thick. It has about 15 ribs with yellowish-brown areoles, which later become grayish. There are 10–17 reddish-brown spines, including three to four centrals, up to 1½in or more long. Flowers are bright red and 4in long; these are diurnal, appearing in summer. Needs full sun; normal cactus compost; minimum temperature 50°F. *Argentina (Tucuman).*



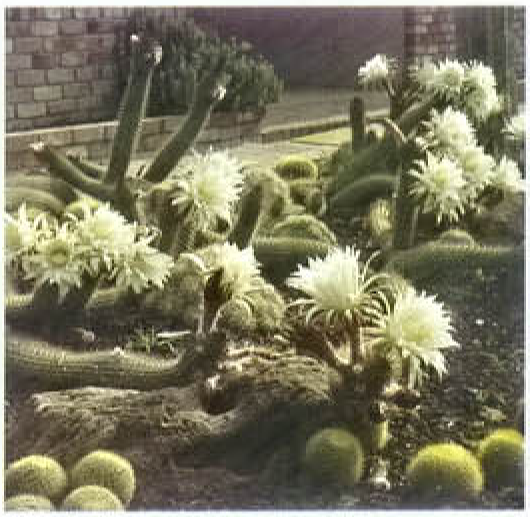
TRICHOCEREUS **TARIJENSIS** (Vaup.) **var. POCO** (Backeb.) Ritter
Syn: *Trichocereus poco* Backeb.; *Helianthocereus poco* (Backeb.) Backeb.

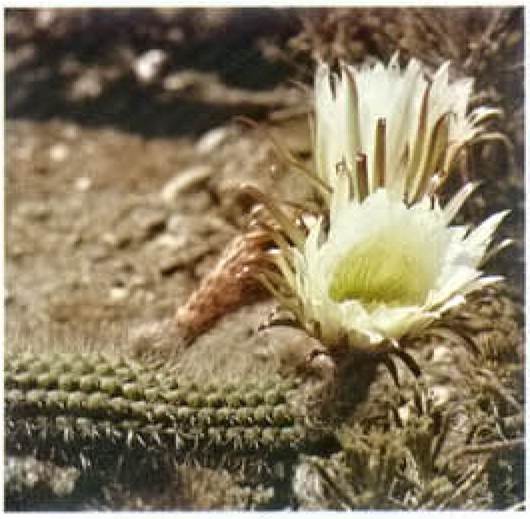
A dark grayish-green columnar plant to over 4ft 9in tall, 8in–1ft 2in thick. It has about 25 ribs, and the grayish areoles bear 12–18 brownish radial spines up to 1½in in length, and six to nine shiny brownish-yellow centrals to 3in long. Summer flowering, and diurnal, the flowers are reddish purple, up to 4¾in long. Needs bright sunlight; normal cactus compost; minimum temperature 50°F. *Northern Argentina, Bolivia.*



TRICHOCEREUS **TERSCHECKII** (Parm.) Backeb.

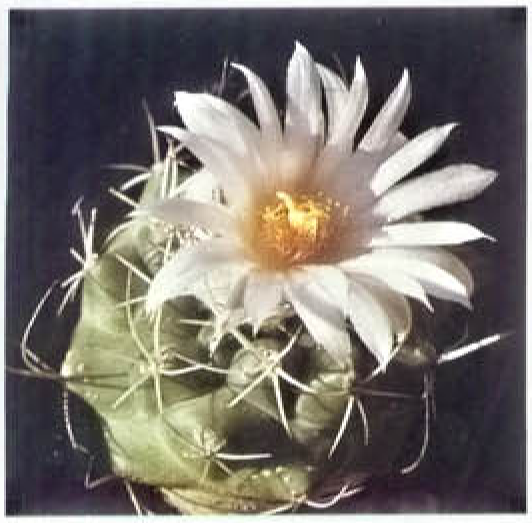
A columnar species up to 39ft tall, branching from the base or above, the branches about 6in thick. It has 8–14 narrowly furrowed ribs and large pale-brownish areoles about ⅔in in diameter, set at 1in intervals, with eight to fifteen yellowish spines 3¼–4in in length. Night flowering in summer, the flowers are white, brown externally, and up to 8in long, 4¾in across. Requires good light; normal cactus compost; minimum temperature 50°F. *Northern Argentina.*





TRICHOCEREUS **THELOGONUS** (Weber) Br. & R.

A rather weak-stemmed species, semi-erect or sprawling. The stems are dark green and up to 4ft 9in long, 2–3¼in thick, branching freely, with about 12 broad ribs. The brownish areoles are about ½in apart, bearing yellow spines which become grayish, about six straight radials ½–¾in long, and one central to 1½in in length. Flowers are nocturnal, in summer; they are about 8in long and in diameter when fully expanded. Needs sun; normal cactus compost; minimum temperature 50°F. *Northern Argentina.*



TURBINICARPUS **LAUI** Glass & Foster
Syn: *Strombocactus laui* (Glass & Foster) Mays; *Neolloydia laui* (Glass & Foster) E. F. Anderson

A solitary, dull-green sub-globose species up to ⅔in high, 1⅕in wide. It has five to six ribs divided into prominent rhomboidal tubercles, three or four to a spiral and up to ⅕in high. Minute areoles bear about six glassy-white spines ⅕–⅓in long. Flowers are diurnal in early summer, white or pinkish and up to 1⅕in long. Requires a bright position; a permeable, mineral and enriched compost; minimum temperature 55°F. *Mexico (San Luis Potosi).*

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TURBINICARPUS **LAUI cv. 'Old Baldy'**

A small, globular dull-green plant 1⅓–1½in in diameter with four-angled tubercles arranged spirally and tipped with white areoles. The spines are pale yellowish brown, very twisted and curved, and it has whitish flowers. Requirements are the same as for the species.

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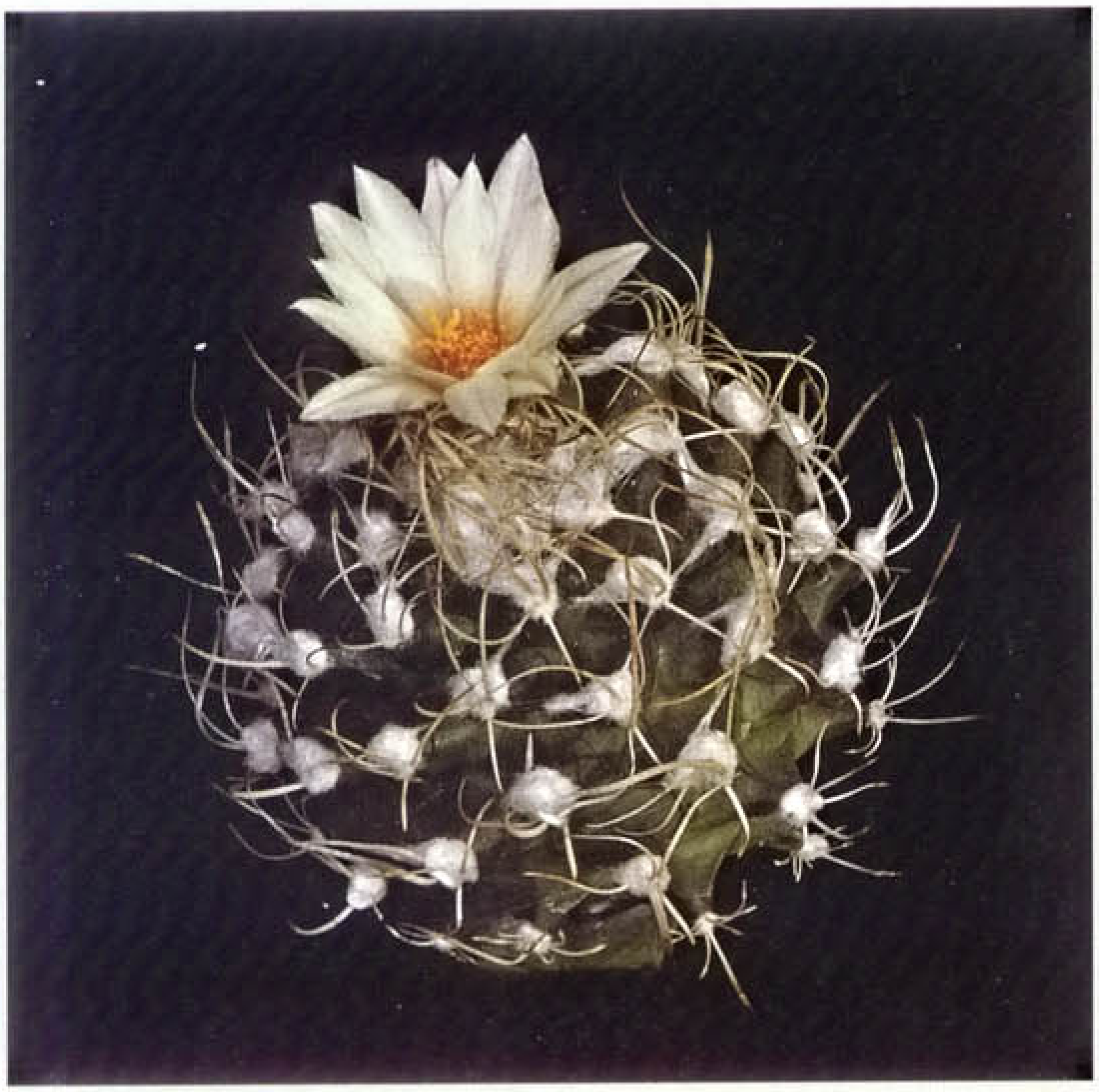

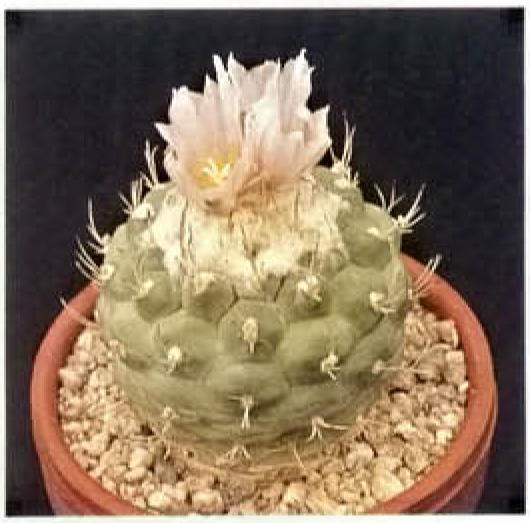

TURBINICARPUS **LOPHOPHOROIDES** (Werd.) Buxb. & Backeb.
Syn: *Strombocactus lophophoroides* F. Knuth & Buxb.; *Neolloydia lophophoroides* (Werd.) E. F. Anderson

A small globular plant 1–1½in in diameter, grayish or bluish-green. About 12 ribs divided into tubercles tipped with small woolly areoles. Usually three to five brownish to blackish spines. Flowers are diurnal in summer, appearing in the woolly crown; they are pink or white, and about 1⅓in in diameter. Needs a bright location; a porous mineral enriched compost; minimum temperature 55°F. *Mexico (San Luis Potosi).*

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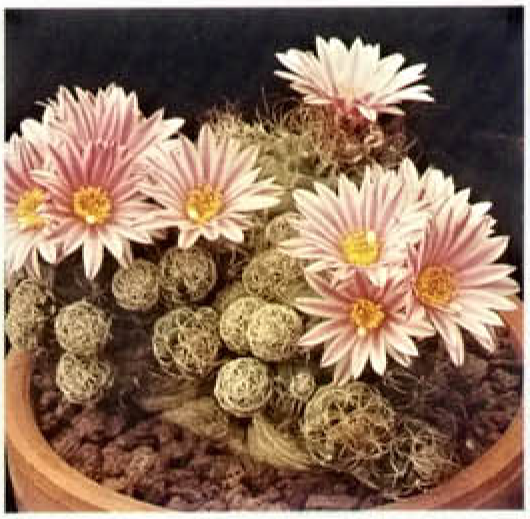

TURBINICARPUS **PSEUDOMACROCHELE** (Backeb.) Buxb. & Backeb.
Syn: *Strombocactus pseudomacrochele* Backeb.; *Neolloydia pseudomacrochele* E. F. Anderson

Dull-green, miniature plants. Heads 1–1½in in diameter, with ribs divided into small tubercles; white terminal areoles bear six to eight adpressed spines. Diurnal flowers in summer, about 1⅓in in diameter, pale pinkish, with a pale-reddish median stripe. Keep dry in winter; bright sun; enriched mineral compost; minimum winter temperature 50°F. *Mexico (San Luis Potosi).*

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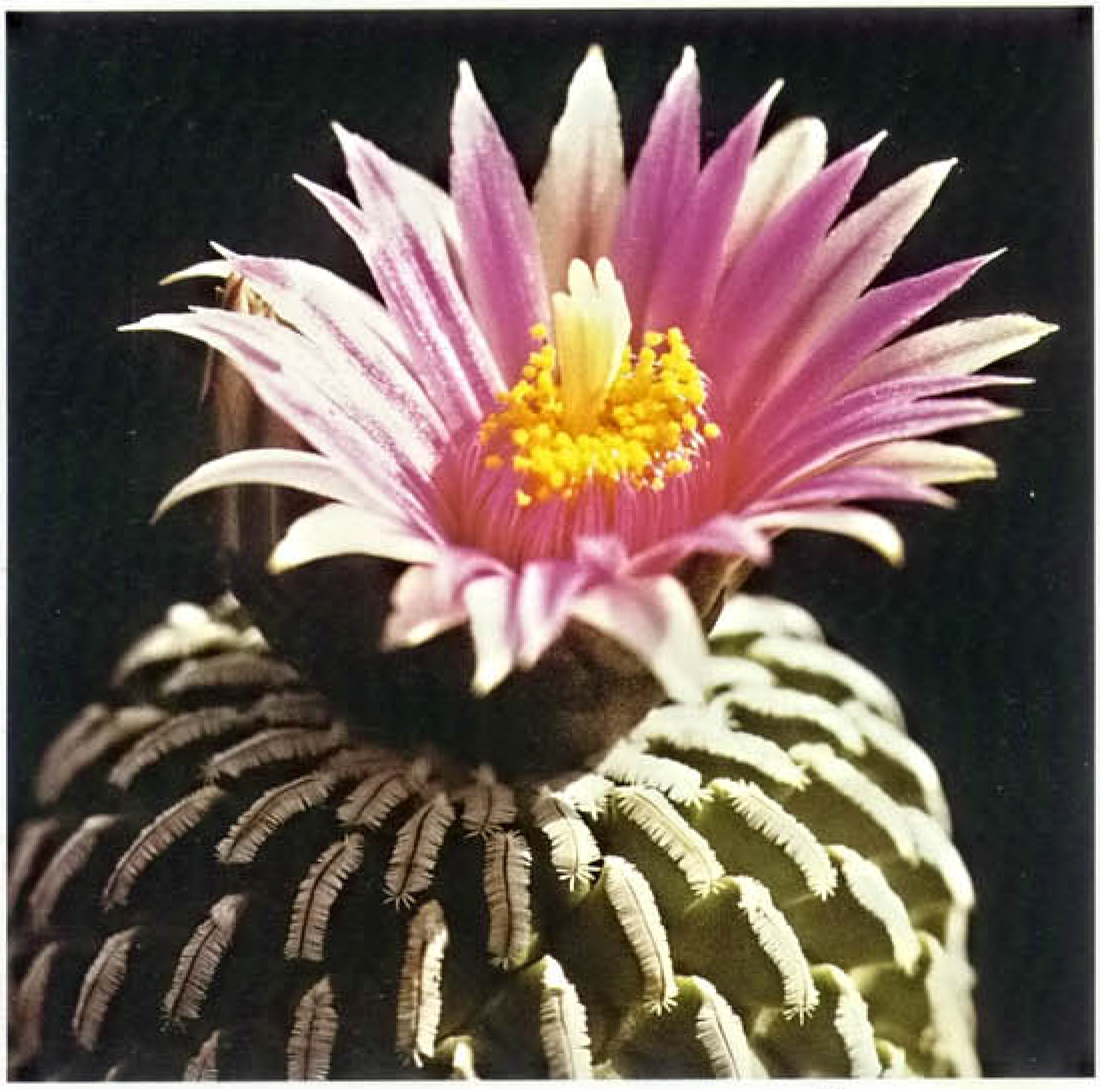

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TURBINICARPUS **PSEUDOPECTINATUS** (Backeb.) Glass & Foster

Syn: *Normanbokea pseudopectinatus* Kladiwa & Buxb.; *Pelecyphora pseudopectinatus* Backeb.

This has also been included within *Neolloydia*. It is a dull-green, small globular species 1–2in in diameter, often slightly elongating. There are 24 or more ribs divided into slightly spirally arranged tubercles which are hatchet-shaped and each tipped with a white areole and numerous white spines in a comb-like formation. The flowers are diurnal, appearing in summer; they are pink, the outer segments having a reddish median line, and are about 1in across. Requires to be kept dry in winter; a bright position; a permeable enriched mineral compost; minimum temperature 55°F. *Mexico (Tamaulipas).*

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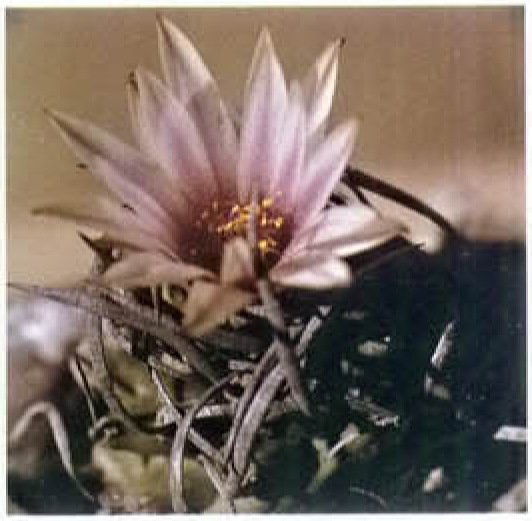

TURBINICARPUS **SCHMIEDICKEANUS** (Böed.) Buxb. & Backeb.

Syn: *Neolloydia schmiedickeana* (Böed.) E. F. Anderson; *Echinocactus schmiedickeanus* Böed.

A solitary or grouping plant with stems to 1½in wide, 2in high. There are 10–12 ribs divided into four-angled pyramidal tubercles with white areoles and one to four curved spines to 1in long. Flowers, diurnal in summer, are pale pink with a darker median line, to 1in across. Needs to be kept dry in winter; a sunny position; porous, calcareous enriched compost; minimum temperature 55°F. *Mexico (Tamaulipas).*

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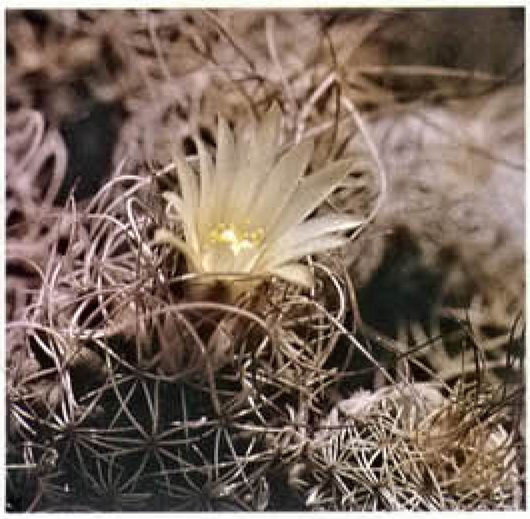

TURBINICARPUS **PSEUDOMACROCHELE var. KRAINZIANUS** (Frank) Glass & Foster

Syn: *Toumeya krainziana* Frank; *Strombocactus pseudomacrochele* var. *krainzianus* Rowley

A dark-green miniature species, ¾–1⅓in wide, 1–1½in high, with about 11 spiraled, tubercled ribs. White woolly areoles carry six to eight yellowish-gray twisting spines up to 1in long. The flowers are terminal, greenish cream in color, and up to ¾in long, appearing by day in summer. Requirements are similar to those of the species. *Mexico (uncertain).*

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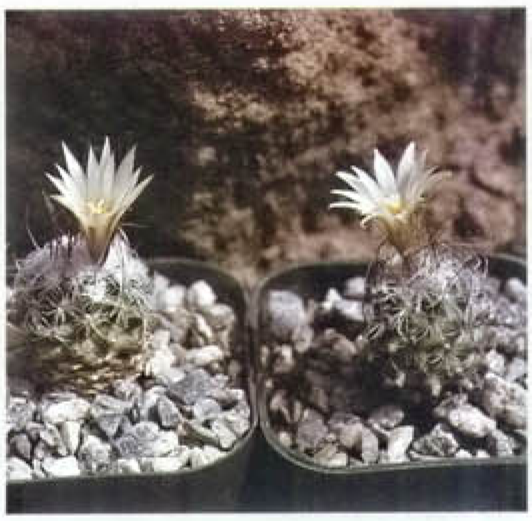

TURBINICARPUS **SCHMIEDICKEANUS var. DICKISONIAE** Glass & Foster

Stems are up to 1in wide, dark grayish-green, and almost globular in shape. The tubercles are arranged in eight to thirteen spirals, each bearing about 23 fine, white radial spines about ⅒in long and one to three grayish-brown twisted centrals to about ¾in long. Flowers, about ¾in long, ⅔in wide when expanded, are white, sometimes with a reddish center stripe. Requirements are the same as for the species. *Mexico (Nuevo Leon).*

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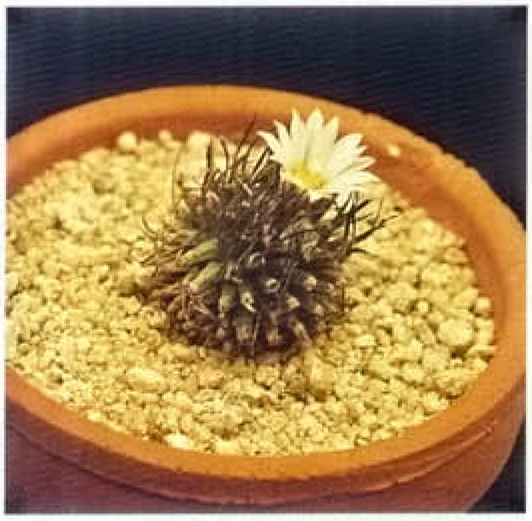

TURBINICARPUS **SCHMIEDICKEANUS var. GRACILIS** Glass & Foster

Syn: *Neolloydia schmiedickeana* var. *gracilis* (Glass & Foster) E. F. Anderson

The variety has a bright green solitary stem, ⅔–¾in wide, or including the tubercles 1in broad. These are almost terete, up to ⅓in long and bearing thin, papery spines from the areoles: one to three white radials, ⅒in long, and one grayish central, ⅔–¾in. Flowers are pure white, ¾in long, and ⅔in across; they are diurnal, appearing in summer. Requirements are the same as for the species. *Mexico (Nuevo Leon).*

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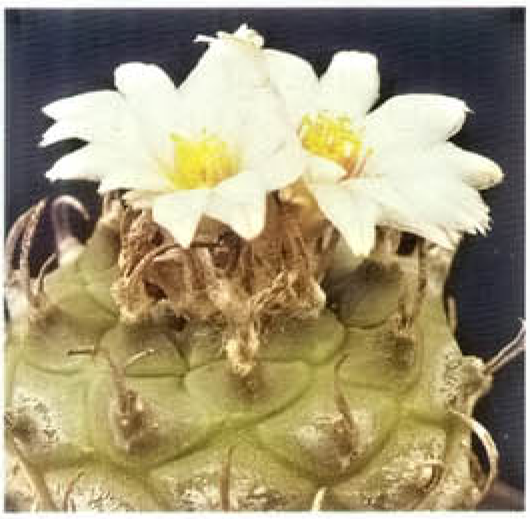

TURBINICARPUS **SCHMIEDICKEANUS var. KLINKERIANUS** (Backeb. & Jacobsen) Glass & Foster

Syn: *Toumeya klinkerianus* (Backeb. & Jacobsen) Bravo & W. T. Marsh

Solitary, globular, and a dull brownish-green, 1in high, 1–1½in wide. Ribs are divided into low, broad tubercles ⅕in high and thick, which are tipped with a small areole bearing three incurving spines, the upper two short and soon falling, the lower about ⅔in long. Flowers are white to cream, about ⅔in long, with wide-spreading petals. Requirements are the same as for the species. *Mexico (Tamaulipas).*

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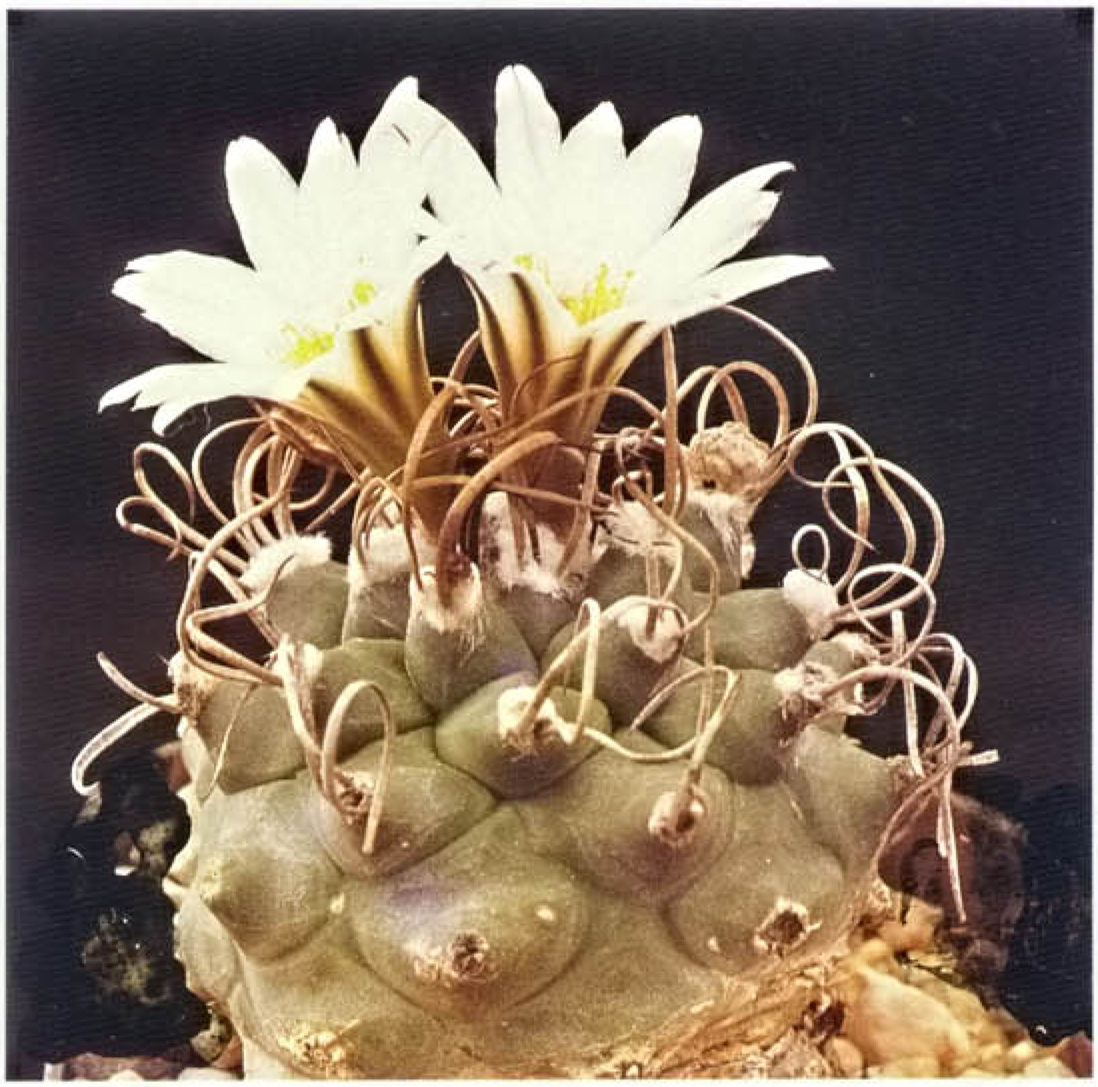

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TURBINICARPUS **SCHMIEDICKEANUS var. MACROCHELE** (Werd.) Glass & Foster

Syn: *Strombocactus macrochele* Werd. & Backeb.

This plant is similar to the species, but invariably solitary and smaller, 1in high, 1½in wide. The tubercles bear whitish areoles and three to four curved and twisted spines 1½in or more long. Flowers are diurnal, white, and somewhat trumpet-shaped, borne in the crown. Requirements are similar to those for the species. *Mexico (San Luis Potosi).*

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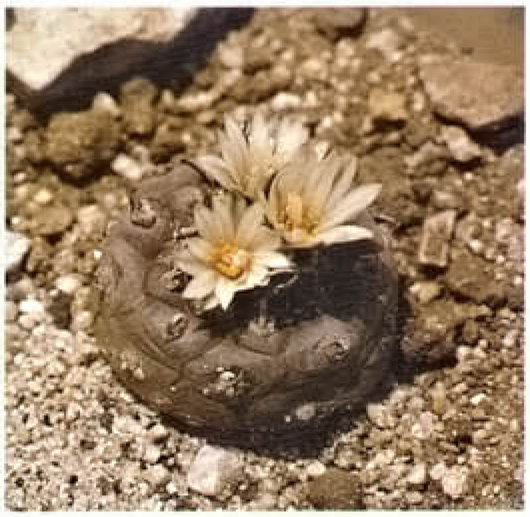

TURBINICARPUS **SCHMIEDICKEANUS var. SCHWARZII** (Shurly) Glass & Foster

Syn: *Strombocactus schwarzii* Shurly; *Turbinicarpus polaskii* Backeb.

A solitary plant, pale green to bluish- or brownish-green, and 1½–2in in diameter. The tubercles are arranged in five to eight spirals, flattened, and four-angled, and the spines are up to ¾in long. Flowers are white or purple, 1in long, and 1½in across when expanded. Requirements are similar to those for the species. *Mexico (San Luis Potosi).*

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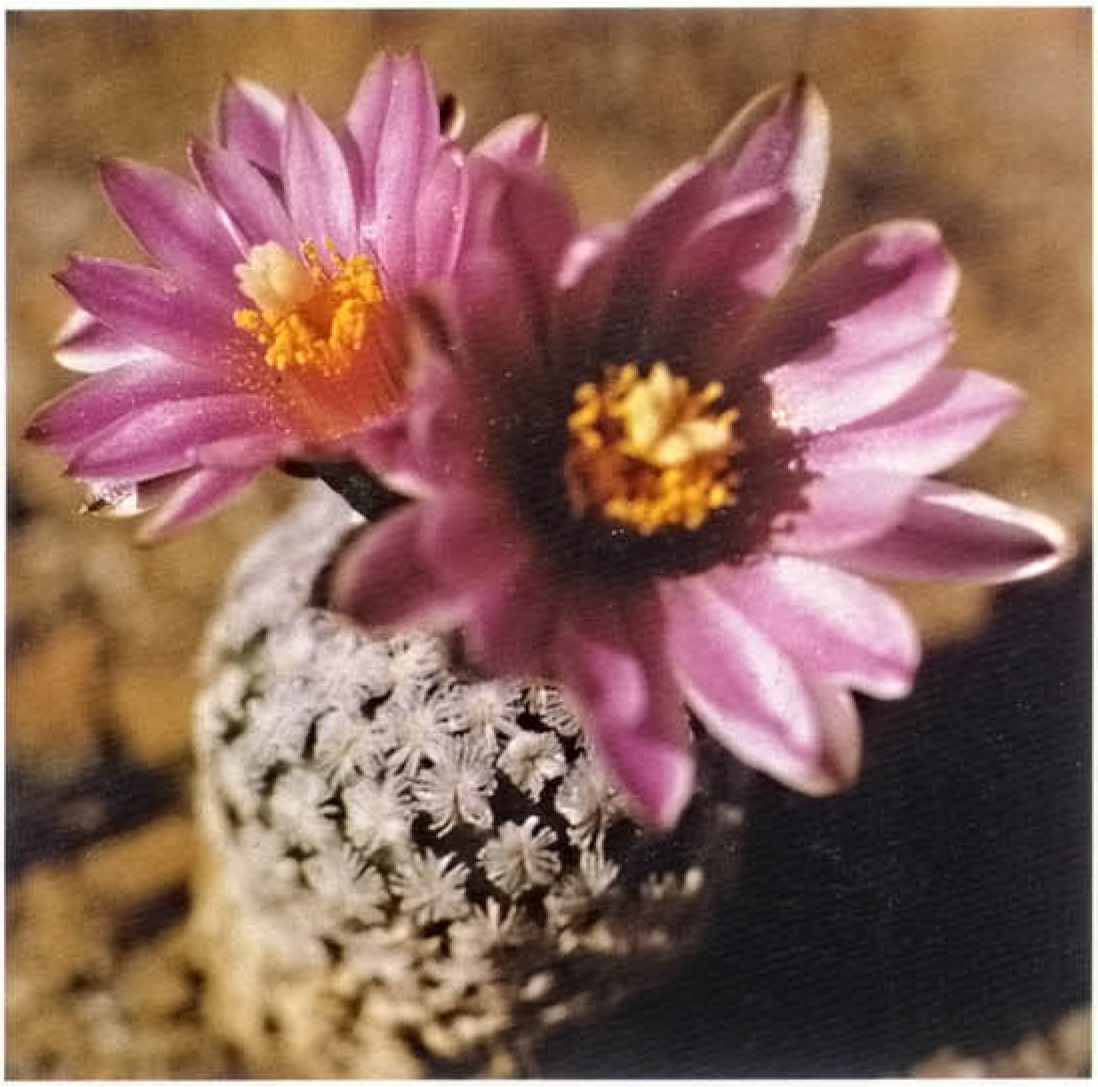

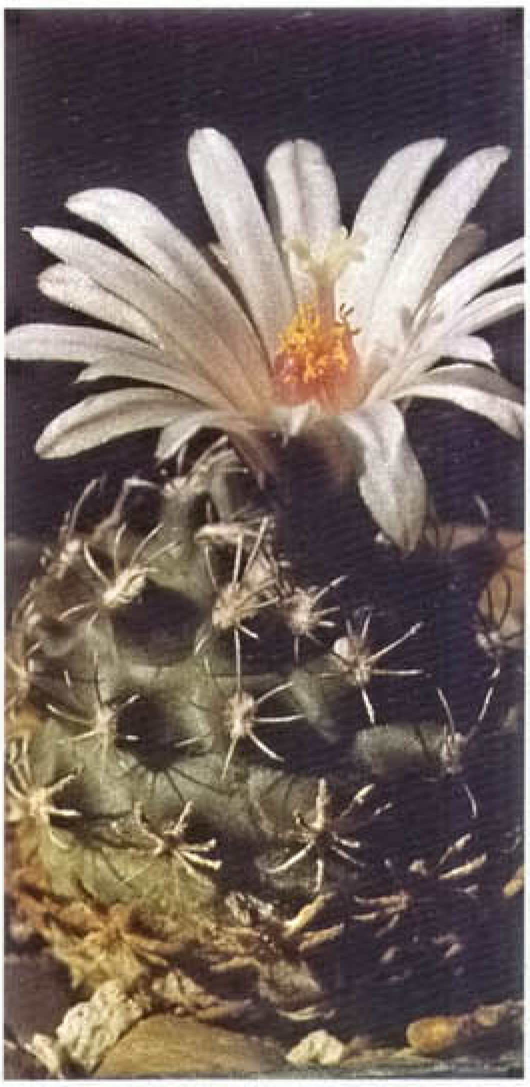

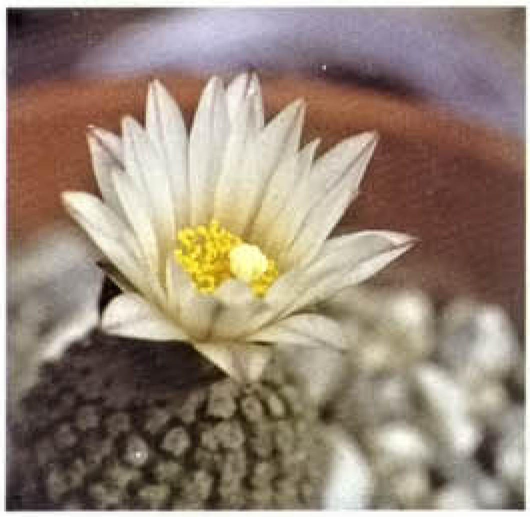

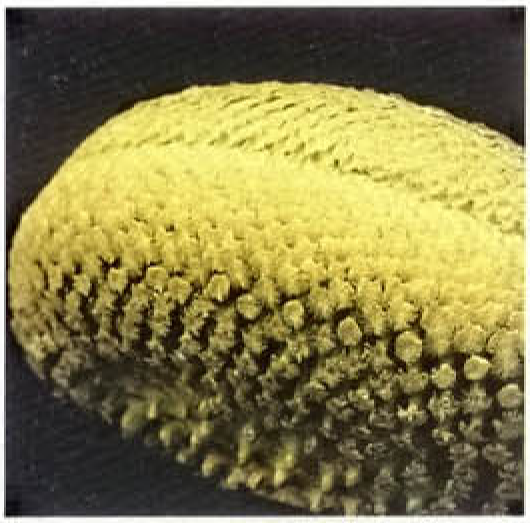

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TURBINICARPUS **VALDEZIANUS** (Möller) Glass & Foster

Syn: *Pelecyphora valdeziana* Möller; *Normanbokea valdeziana* Kladiwa & Buxb.

An attractive sub-globose miniature plant named for Möller's mother-in-law. It has a long subterranean stem, ½–1⅓in in diameter, with only the rounded top exposed. The bluish-green ribs are divided into tubercles arranged spirally, and are four angled, ⅒in long, and wide. There are numerous white and hair-like spines up to ⅒in long and horizontally spreading. Flowers are reddish purple, up to ¾in long and wide: these are diurnal, flowering in summer. A white-flowered variety is also known, referred to as var. *albiflora* (left), the flower color being the only difference. The cristate form (below left) which only rarely is encountered is a much sought-after and attractive plant. Requires a sunny position; slightly calcareous compost; minimum temperature 55°F. *Mexico (near Saltillo, Coahuila).*

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TURBINICARPUS **VALDEZIANUS cv. 'Torito'**

A dark-green globular plant of only dwarf dimensions. The ribs are divided into rhomboid tubercles about ⅒in long and broad. Areoles are grayish white and bear seven to eight brownish-gray spines. Flowers are whitish with a faint deep-pinkish midstripe. Requirements are the same as for the species. *Mexico.*

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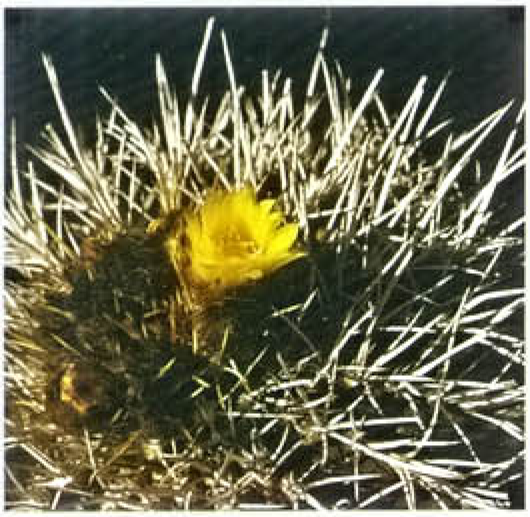

UEBELMANNIA **BUININGII** Donald

A dark-green or brownish-red, somewhat globular plant totally covered with minute waxy scales. The stem is about 3¼in in diameter and up to 4in high, and it has 16–18 ribs with close-set, heavily spined areoles. These spines are reddish-brown, mostly semi-erect; two to four are about ⅕–¼in long, and there are usually four longer, ½–⅔in in length. Flowers, diurnal in summer, are funnel-shaped, bright yellow, and up to 1in long, about ¾in across. Needs a humid, slightly shaded position; a porous acid compost; minimum temperature 59°F. *Brazil (Minas Gerais).*

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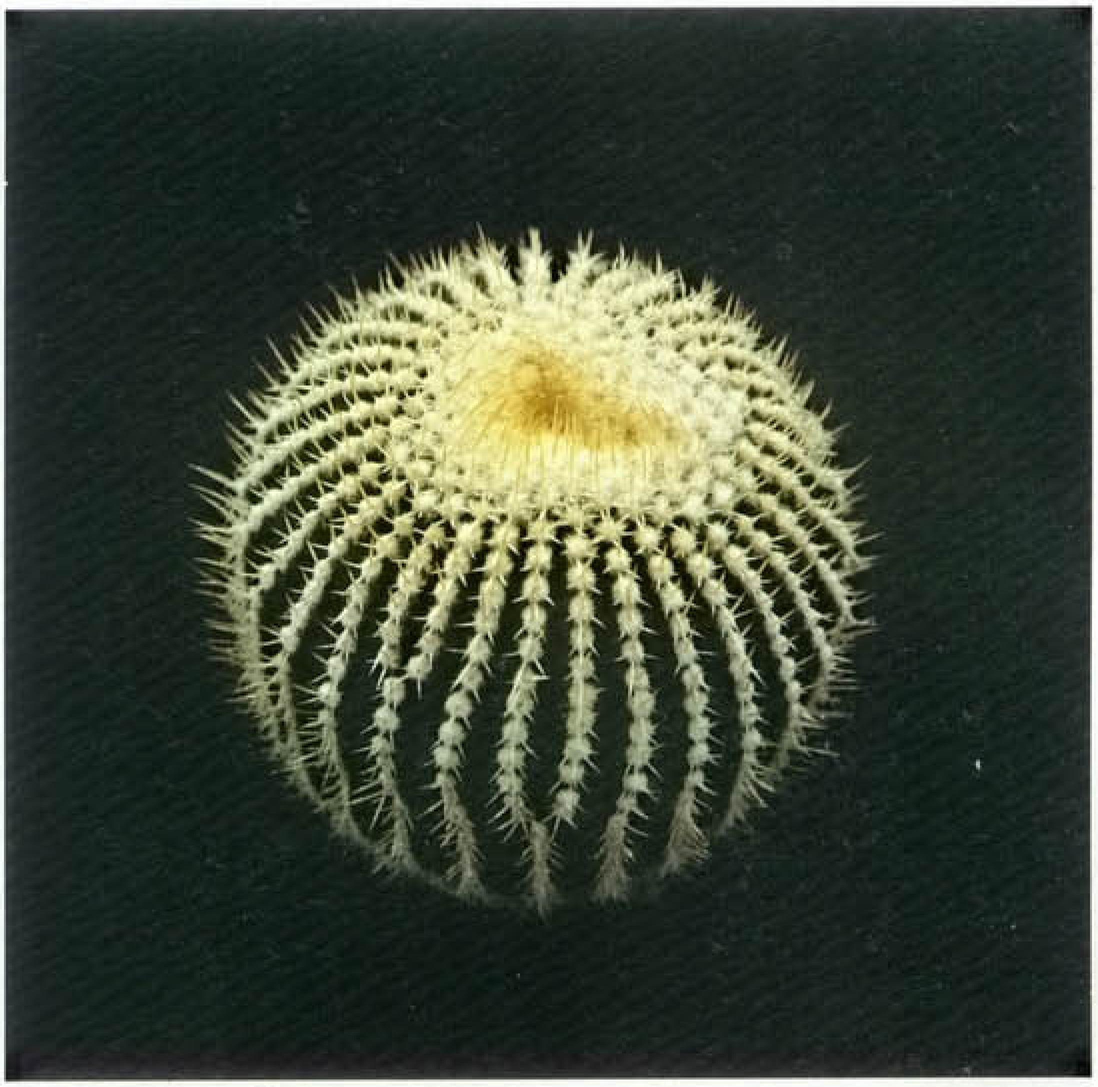

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UEBELMANNIA **GUMMIFERA** (Backeb. & Voll) Buin.
Syn: *Parodia gummifera* Backeb. & Voll.

A grayish-green, globular, slightly elongating plant up to about 4in high, 2½–3in in diameter. It has about 32 ribs closely encompassing the body with small grayish-white areoles, each with three radial spines to ⅕in long, one downward pointing, two lateral, and one longer, slightly upward-pointing central. Flowers appear by day in summer in the crown of the plant and are bright yellow, ¾in long, ⅔in wide. Needs a sunny position, which is essential; porous, slightly calcareous compost enriched with humus; minimum temperature 59°F. *Brazil (Minas Gerais).*

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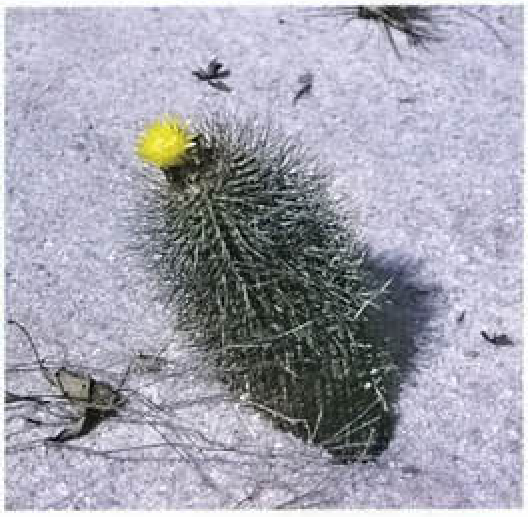

UEBELMANNIA **MENINENSIS** Buin.

A rather globose-cylindrical-shaped green plant to 1½ft high, 4in in diameter, with up to 40 ribs. The areoles are brownish, each bearing one upward-pointing and one downward-pointing grayish blackish spine about ¾in long, which provides a formidable covering to the stem! Flowers are diurnal, appearing in summer; they are yellow, ¾–1⅕in long and across. Requires full sun; a slightly acid cactus compost; minimum temperature 59°F. *Brazil (Minas Gerais).*

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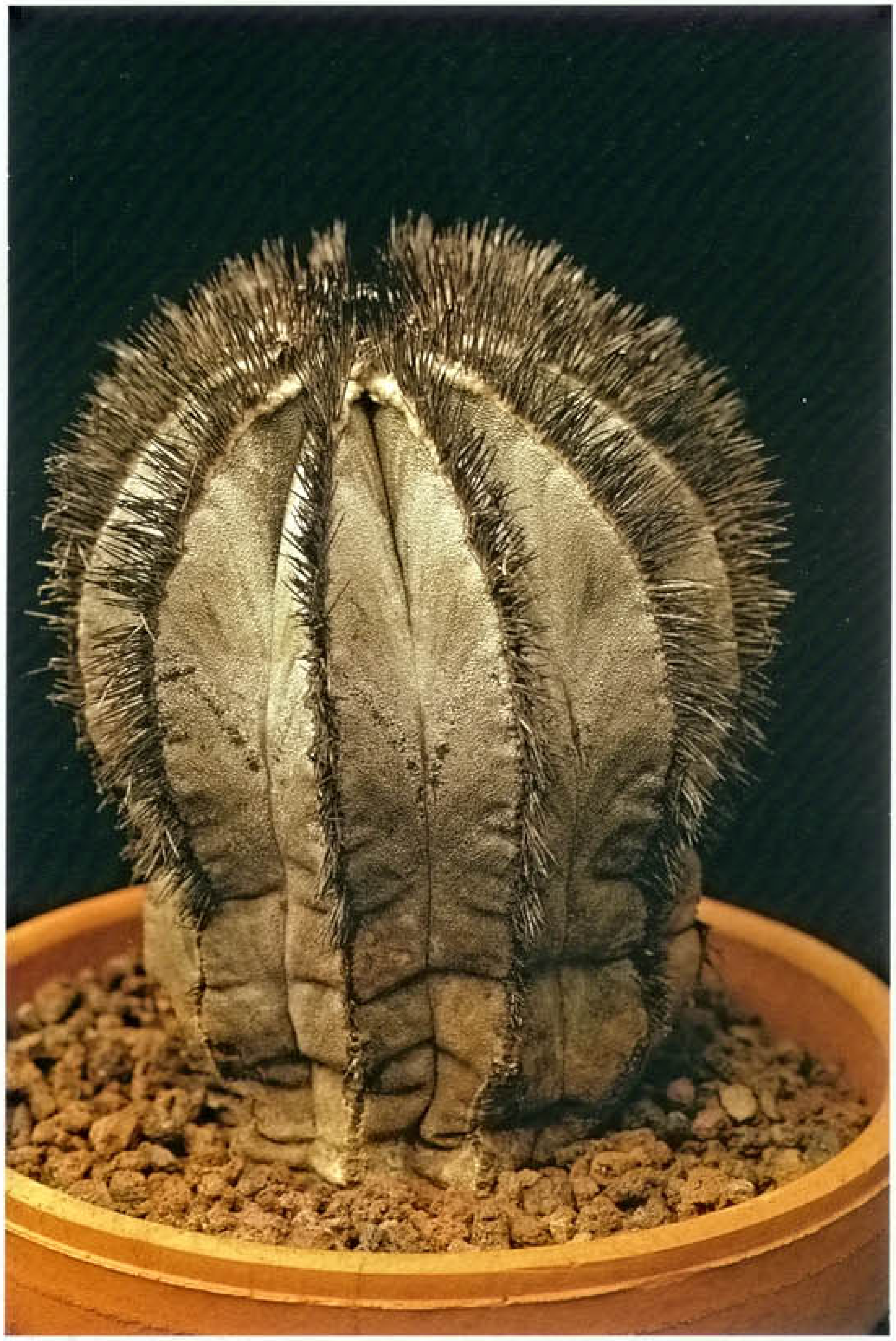

UEBELMANNIA **PECTINIFERA** Buin.

A distinctive and attractive globular plant which becomes slightly columnar, up to 1½ft high, 4–6in in diameter and reddish, almost blackish-brown in color. It has 15–18 pronounced ribs with closely set areoles bearing a number of straight dark-brownish central spines – no radials. These are up to ⅔in long, producing an interesting comb-like effect. Flowering by day in summer, the blooms are about ⅔in long and ½in across. Requires a sunny position with humidity; permeable enriched, slightly calcareous compost; minimum temperature 59°F. *Brazil (Minas Gerais).*

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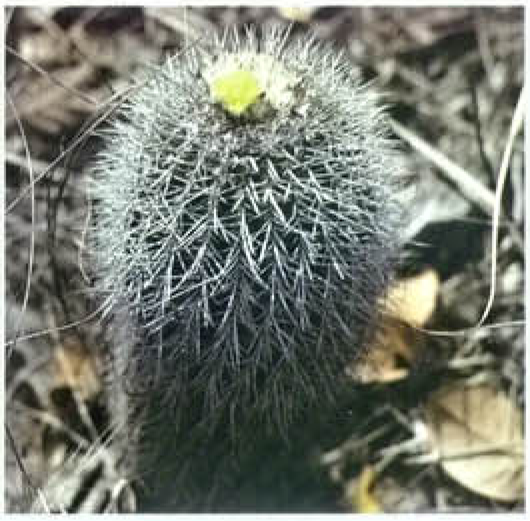

UEBELMANNIA **PECTINIFERA var. HORRIDA** Braun

This is very similar to the type species but is basically green, and the whitish-gray spines tend to be more widely spreading. Flowers are yellow, almost hidden by the terminal spination! Requirements are the same as for the species. *Brazil (Northern Minas Gerais).*

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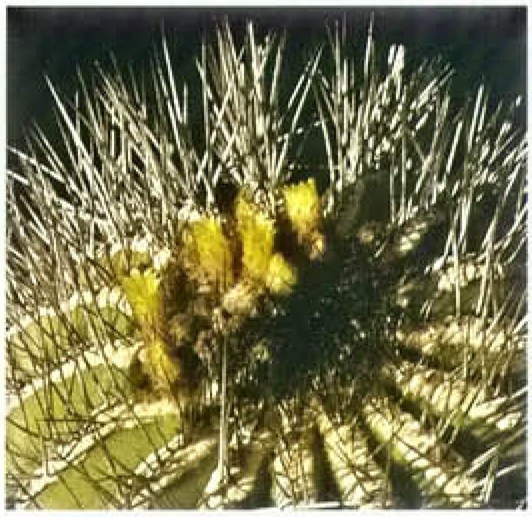

UEBELMANNIA **PECTINIFERA var. PSEUDOPECTINIFERA** Buin.

This is very similar to the species except that the body color is green without many spots. Ribs are similar, but the spination tends to spread laterally, not in a comb-like formation. Flowers and cultivation requirements are the same as for the species. *Brazil (Minas Gerais).*

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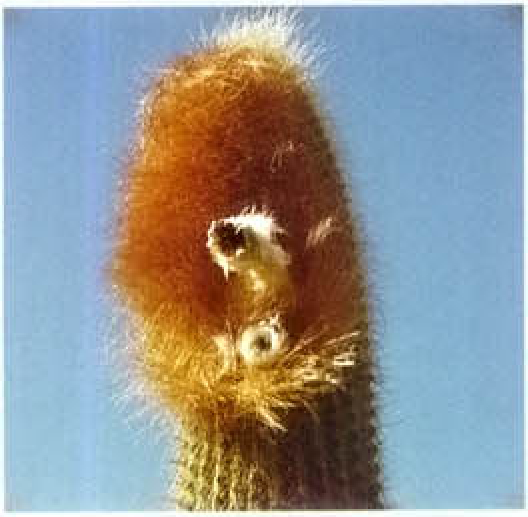
VATRICANIA

V



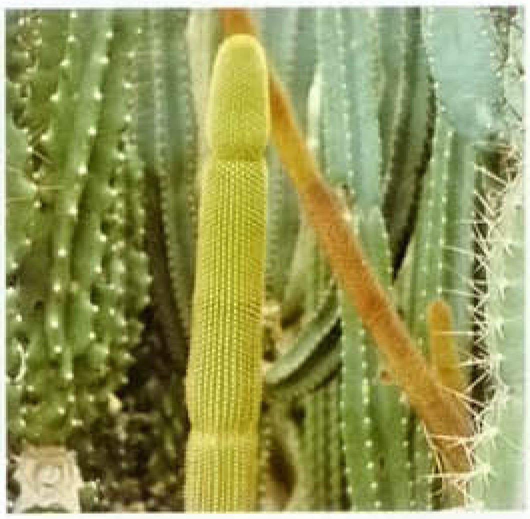
VATRICANIA **GUENTHERI** (Kupper) Backeb.

Syn: *Espostoa guentheri* (Kupper) Buxb.

Similar to species of *Espostoa* where it properly belongs. It is a pale green columnar plant 6½ft or more tall, to 4in thick, branching from the base, with about 27 ribs. The yellowish-white areoles bear around 25 spines from ⅕–⅔in long. Composed of reddish-brown bristles up to 2½in long and brownish-yellow hairs and wool. Yellowish white flowers occur in early summer. Requires sun; normal cactus compost; minimum temperature 55°F. *Bolivia.*

WEBERBAUEROCEREUS

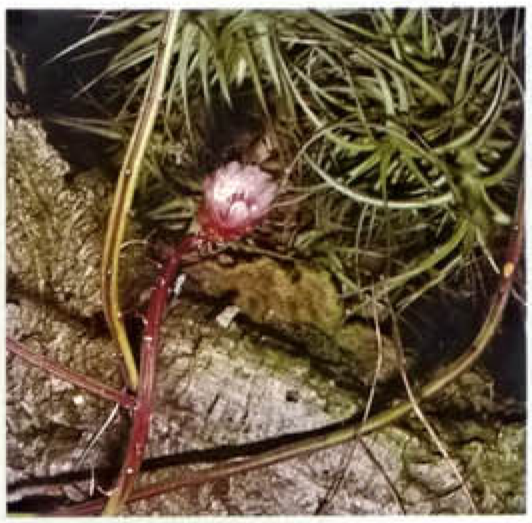
W



WEBERBAUEROCEREUS **JOHNSONII** Ritter

A bushy, columnar plant, often tree-forming in its habitat and up to 20ft tall! In cultivation it is usually columnar to 4ft 9in tall, with stems 3–3½in in diameter. It has 30–35 ribs with brown areoles ⅒in wide bearing golden-yellow spines. The more or less terminal flowering zone has larger areoles and more numerous spines up to 50 in number, and to 2½in long. Flowers are nocturnal; they are white or pale pinkish white, about 4¼in long, and appear in early summer. Requires bright light; normal cactus compost; minimum temperature 55°F. *Peru (Cajamarca).*

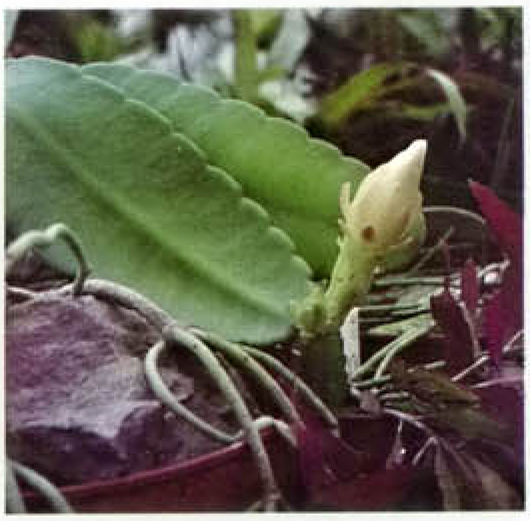
WEBEROCEREUS



WEBEROCEREUS **BIOLLEYI** (Weber) Br. & R.

Syn: *Cereus biolleyii* Weber

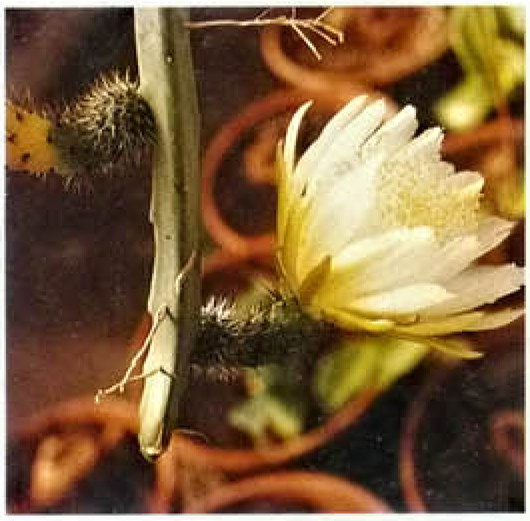
An epiphytic trailing or climbing species. It has cylindrical or irregularly angled stems up to 2ft 7in long, rarely exceeding ⅕in thick, and often branching. The areoles are small and far apart, with rarely one to three very fine spines. Flowers, nocturnal in summer, are 1–2in long and in diameter, and have fleshy, dark-pink outer petals and longer, pale-pink inner segments. Needs a semi-shaded position, which is essential, plus humidity; a porous acid compost; minimum temperature 59°F. *Costa Rica.*



WEBEROCEREUS **BRADEI** (Br. & R.) D. R. Hunt

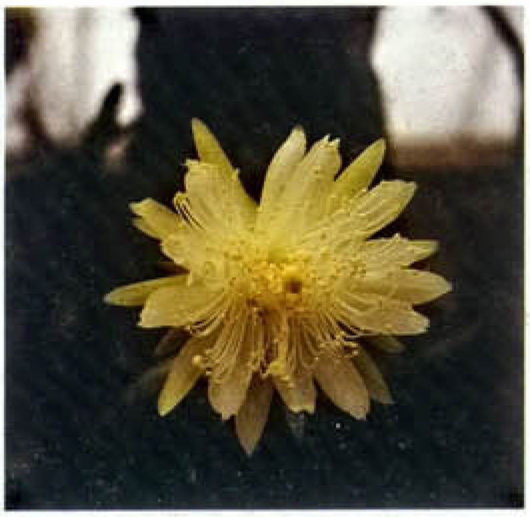
Syn: *Phyllocactus bradei* Vaup.; *Eccremocactus bradei* (Vaup.) Br. & R.

An epiphytic species with thick, flat, leaf-like stems. The joints or branches are 1ft–1ft 3in long, 2–4in wide, and about ⅕in thick, with wavy edges and very small areoles bearing a single short spine. Flowers, nocturnal in summer, appear from the upper areoles. They are white, pale pinkish externally, and 2½–3in long, the fleshy petals only slightly expanding. Requires filtered light; an enriched porous compost; minimum temperature 64°F. *Costa Rica.*



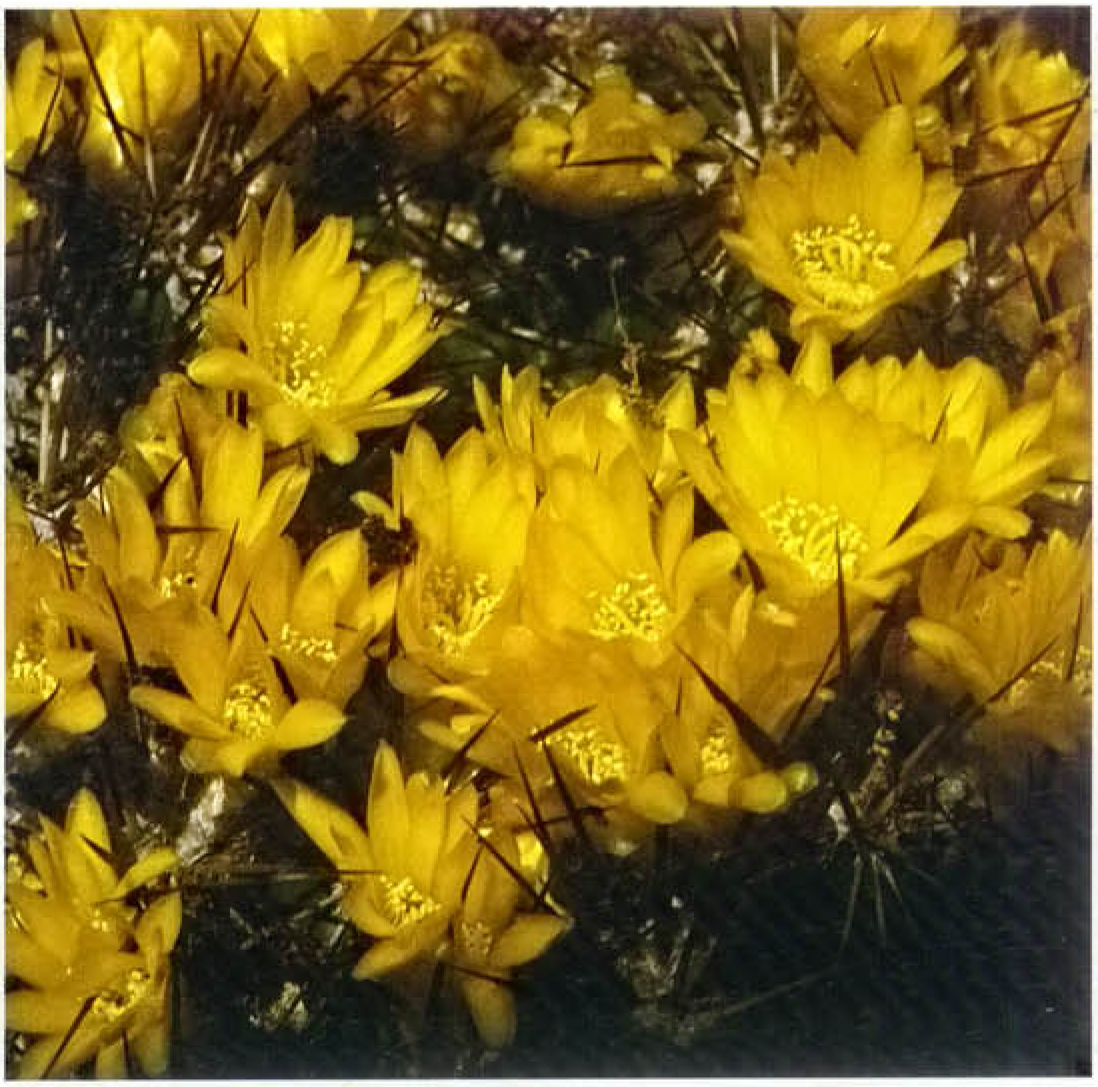
WEBEROCEREUS **GLABER** (Eichl.) D. R. Hunt
Syn: *Cereus glaber* Eichl.; *Werckleocereus glaber* (Eichl.) Br. & R.

An epiphytic species climbing by means of aerial roots. It has glaucous-green stems 6½–10ft long, about ¾in thick, which are three-angled and more or less toothed. The areoles are small with brownish wool and one or two very short spines. Nocturnal flowers appear in mid-summer; these are cup-shaped and 4–4¾in long. The inner petals are white, slightly serrated, and the outer petals are pale greenish brown. Requires partial shade; normal cactus compost; minimum temperature 59°F. *Guatemala*.



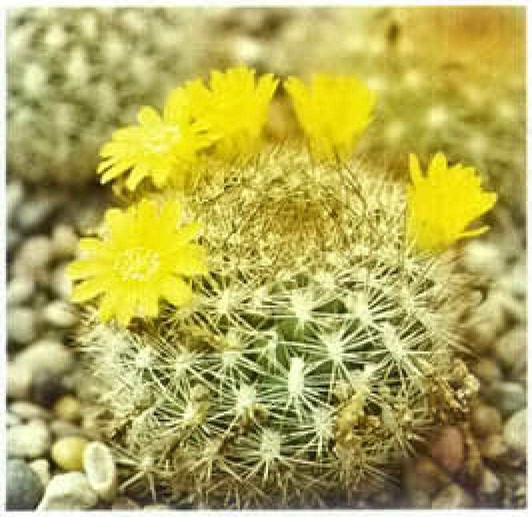
WEBEROCEREUS **TONDUZII** (Weber) D. R. Hunt
Syn: *Cereus tonduzii* Weber; *Werckleocereus tonduzii* (Weber) Br. & R.

Epiphytic trailing or climbing species with pale grayish-green, two- to three-angled stems, the angles mostly rounded, more rarely toothed. The stems are 10–13ft or more long, ¾–1in thick, small areoles with a few weak spines. Flowers are nocturnal in summer, inner petals yellowish and the outer ones brownish pink. Requires semi-shade; porous acid compost; minimum temperature 59°F. *Costa Rica*.



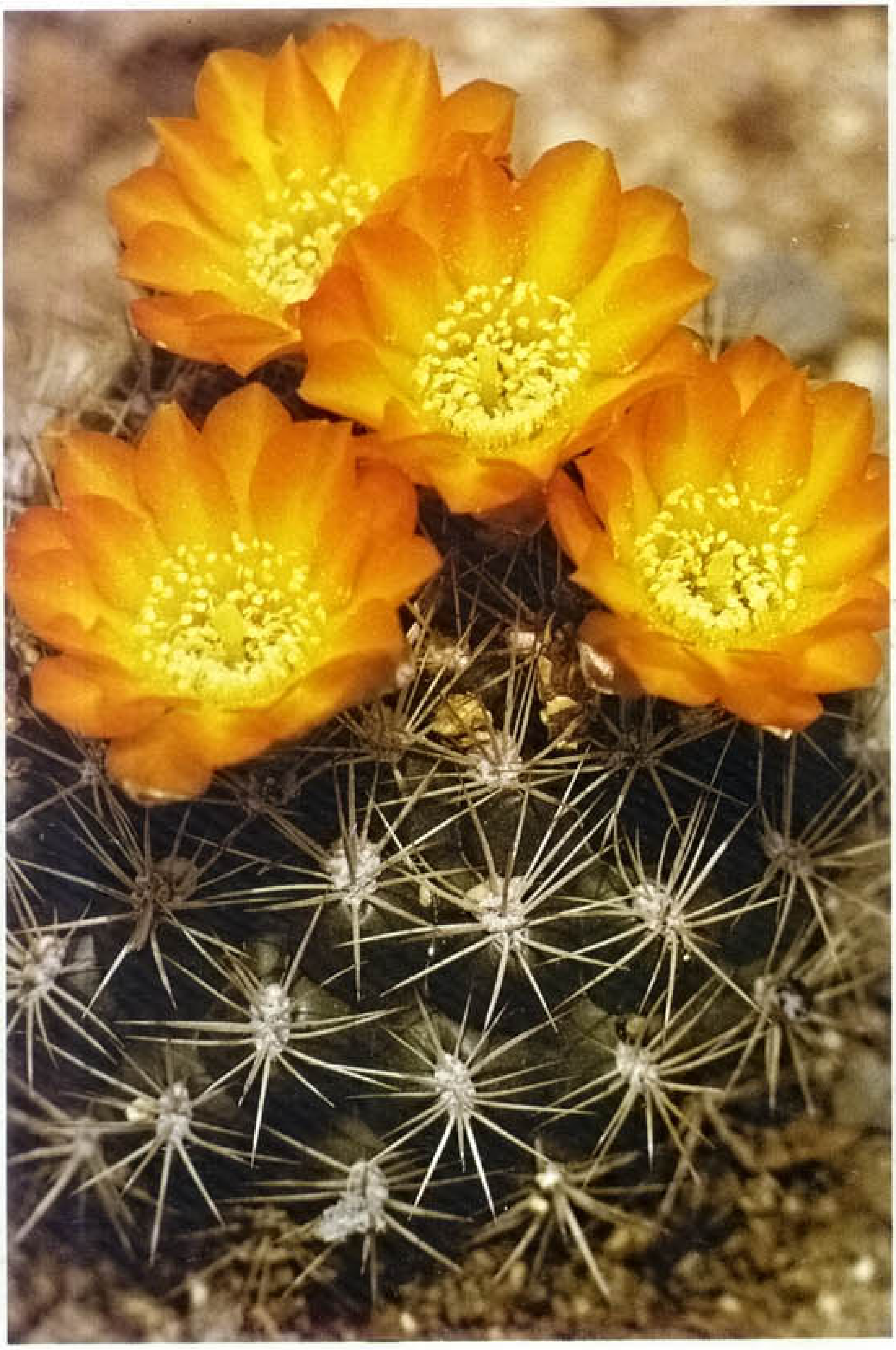
WEINGARTIA **LANATA** Ritter

A globular species, with the stem about 7in thick and about 14 ribs. The areoles are elongated, bearing 12–16 yellowish-white, dark-tipped radial spines ½–1½in long, and 10–15 similarly colored centrals from ⅔–2in in length. Summer flowering, and diurnal, the flowers are bright yellow, 1in long, and ¾–1in in diameter. Requires bright light; normal cactus compost; minimum temperature 50°F. *Bolivia (Chuquisaca)*.



WEINGARTIA **MULTISPINA** Ritter

A pale green, semi-globular plant about 5½in in diameter, covered with large prominent conical tubercles about ⅓in long. The areoles are ¼–⅓in long, ⅒–⅕in wide with whitish-brown wool. The spines are yellowish or slightly brownish consisting of 25–30 radials to ½in long and 25–30 centrals up to ¾in in length. Flowering in summer, and diurnal, the flowers are bright yellow, about ¾in long, ⅔in wide. Requires bright light; normal cactus compost; minimum temperature 50°F. *Bolivia (Cochabamba)*.



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WEINGARTIA **NEOCUMMINGII** Backeb.

A most variable species; the bright to dark green stems are semi-globular, and up to 8in high, 4in thick, with about 16–18 tuberclate ribs. Areoles bear 16–20 yellowish, brown-tipped radial spines up to ⅔in long and about six more centrally placed spines which are thicker. Day flowering in summer, the flowers are orange, shading to a yellow throat, and 1in long. Requires a bright location; normal cactus compost; minimum temperature 50°F. *Bolivia (Florida).*

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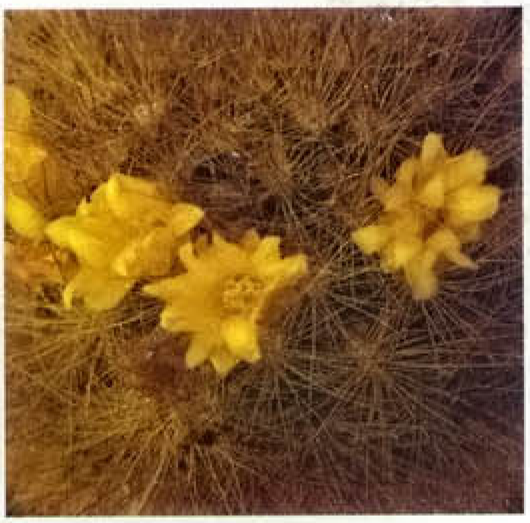

WEINGARTIA **NEOCUMMINGII var. MAIRANENSIS** Donald
Syn: *Weingartia "hajekiana"* Knize

Apparently this is somewhat similar to the species but is of more cylindrical growth. The spines are orange or brownish, and fewer in number, and the flowers are bright yellow. Requirements are the same as for the species. *Bolivia (Santa Cruz).*

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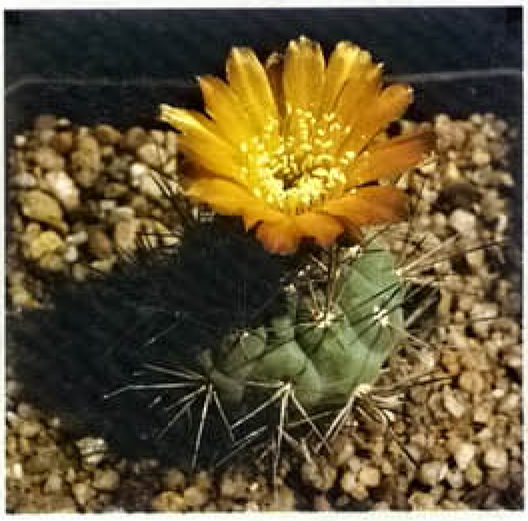

WEINGARTIA **NEUMANNIANA** (Backeb.) Werd.
Syn: *Spegazzinia neumanniana* Backeb.; *Rebutia neumanniana* (Backeb.) D. R. Hunt

Small grayish-green, more or less globular plants up to 3in long, 2in in diameter with 13–15 notched ribs. The areoles are set about ½in apart, and bear reddish-brown spines, about six radials, and one central up to ¾in or a little longer. Day flowering in summer, the flowers are orange-red with pointed petals, and are about 1in long and across. Requires bright light; normal cactus compost; minimum temperature 50°F. *Northern Argentina.*

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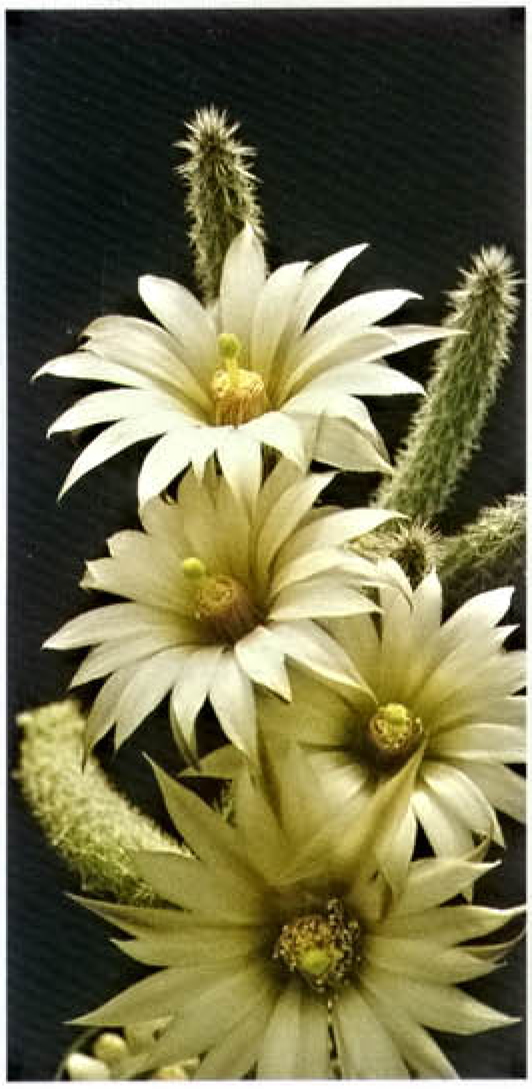
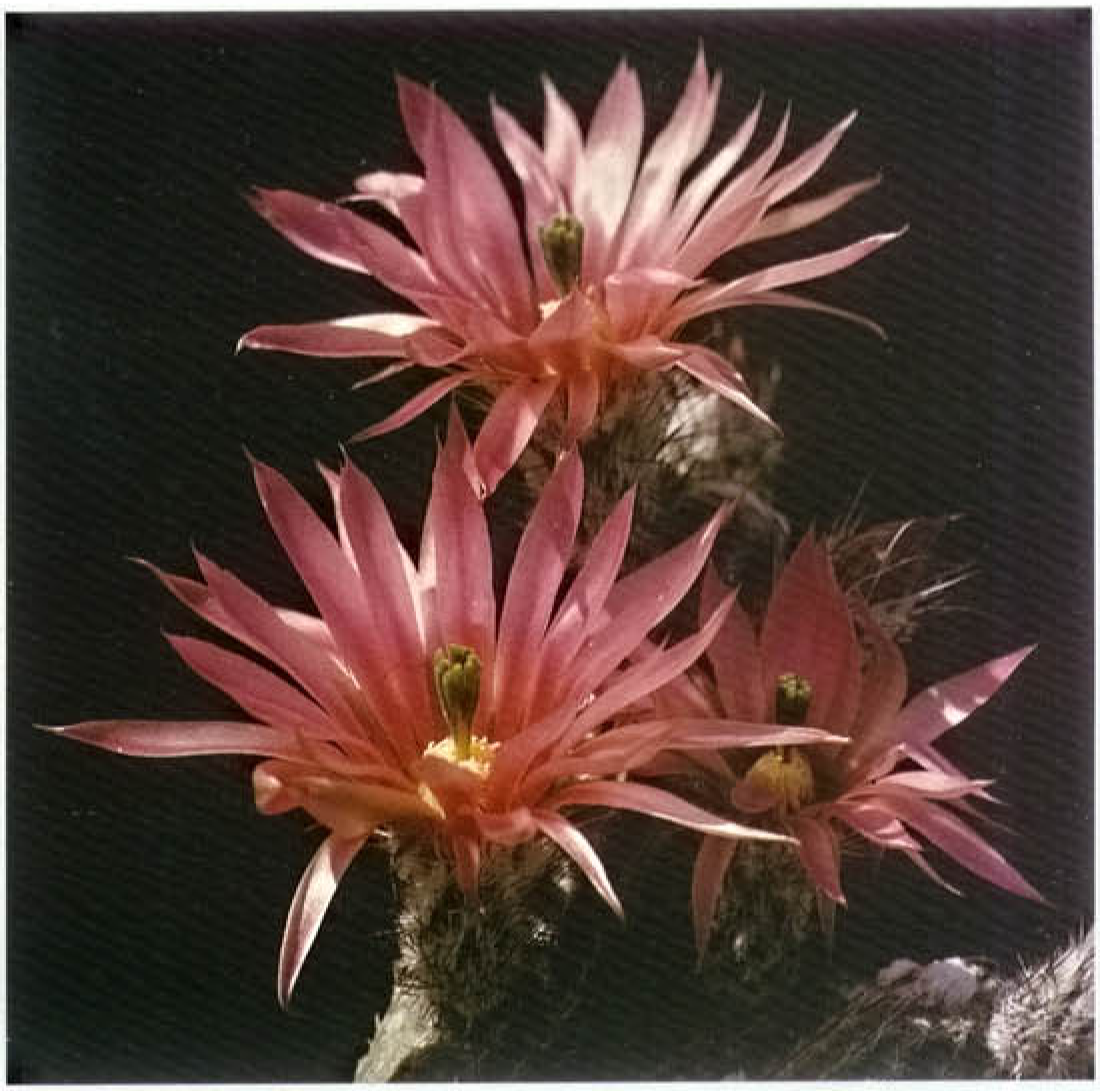


WILCOXIA **ALBIFLORA** Backeb.

All *Wilcoxia* species are possibly synonymous with *Echinocereus*. This is a freely branching, clambering species with dark-green slender stems up to 8in or more long, ¼in in diameter, and somewhat cylindrical in shape. It has nine to twelve ribs set with small brown areoles bearing 10–12 yellowish spines about 1/16in long. The flowers, diurnal in mid-summer, are produced from near the tips of the stems; they are white with a greenish-brown throat, and are about ¾in long. Requires a little protection from full sun; normal cactus compost; minimum temperature 50°F. *Mexico (Sonora, Sinaloa).*



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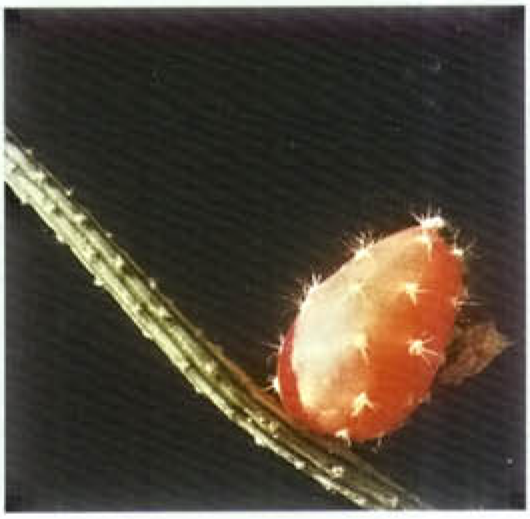
WILCOXIA **POSELGERI** (Lem.) Br. & R.
Syn: *Echinocereus poselgeri* Lem.

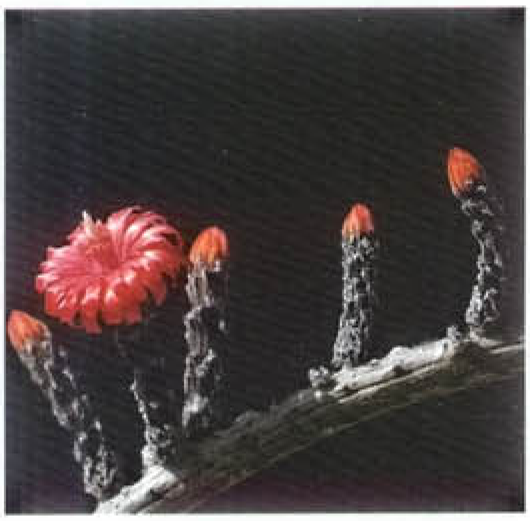
Fairly rigid, erect, bushy plants with dark green, branching stems up to 2ft long, and ⅔in or more thick. It has eight to ten shallow ribs with close-set areoles carrying grayish-white spines, eight to nine radials to 1/10in long, and one or two centrals ⅓in or so long. Flowering in summer, the blooms open after midday but close at night; they are pale purplish pink with a reddish throat, and 1½–2in long. Requires a somewhat filtered light; normal cactus compost; minimum temperature 50°F. *USA (Texas), Mexico (Coahuila).*



WILCOXIA **STRIATA** (Brandegee) Br. & R.

A long, bluish to greyish-green slender-stemmed species up to 1m in length and 5–8mm thick. It has eight to nine very narrow, low ribs and the areoles, up to 1cm apart, bear nine to ten almost minute blackish-brown radial spines. Flowers are diurnal, blooming in summer. They are produced laterally, and are reddish purple. Shade; very porous cactus compost; minimum temperature(55°F). *Mexico (Baja and islands).*

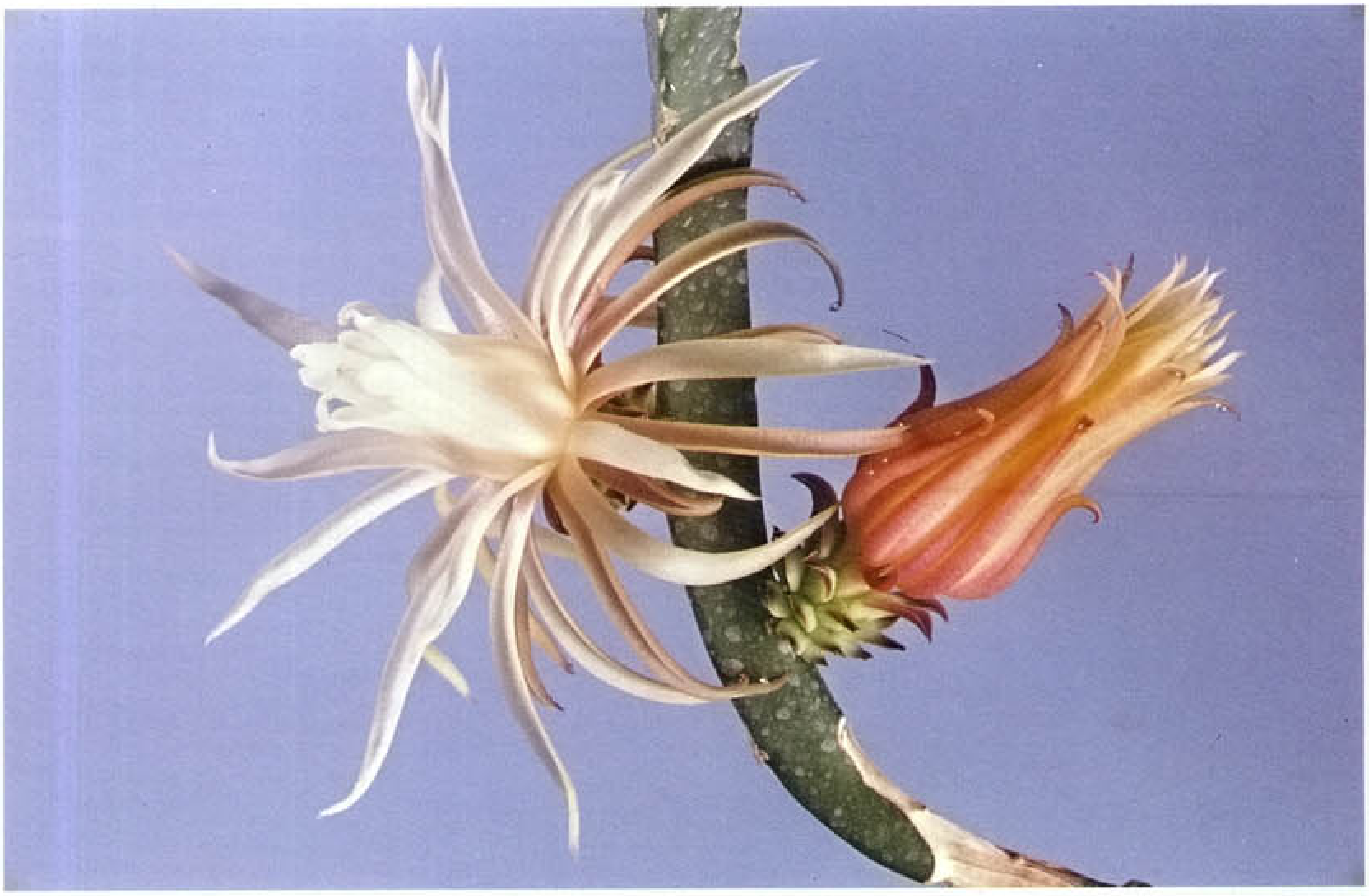
WILCOXIA



WILCOXIA VIPERINA (Weber) Br. & R.
Syn: *Cereus viperina* Weber; *Cullmannia viperina* (Weber) Distef.

A bushy species with many grayish-green, long trailing stems to nearly 10ft in length, about ¾in thick, and quite velvety. It has eight to ten ribs with small blackish areoles bearing blackish spines: eight to nine radials about ⅕in long, and three to four centrals which soon fall. The flowers appear laterally along the stems, and are glossy red, about 3¼in long, 1½in across; they are diurnal, in summer. Requires very good light; normal cactus compost; minimum temperature 55°F. *Mexico (Puebla).*

WILMATTEA



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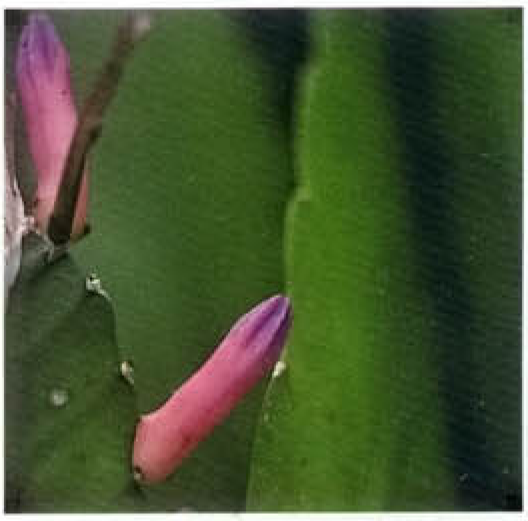
WILMATTEA MINUTIFLORA (Br. & R.) Br. & R.
Syn: *Wilmattea viridiflora* (Vaup.) Br. & R.

An epiphytic climbing or clambering plant from forested regions. It has elongated, three-angled, dark-green stems and joints ⅔–1in wide, with evenly crenate margins. The areoles are about 1in apart and have usually one to three minute, almost hair-like yellowish to black spines, about 1/16in long. Flowers appear in early summer, and are nocturnal and fragrant. They are 1–1⅕in long, 3¼–3½in wide when fully open. The elegant unopened flower has a short tube and a small ovary, which are covered with green triangular scales, edged at the tips with brownish-red. Requires slight shade; normal cactus compost; minimum temperature 55°F. *Guatemala, Honduras.*

WITTIOCACTUS



WITTIOCACTUS AMAZONICUS (K. Sch.) Rauschert
Syn: *Wittia amazonica* K. Sch.; *Disocactus amazonicus* (K. Sch.) D. R. Hunt

Indeed a rarity. Stems are leaf-like, notched at intervals. They are 6in–1ft 3in long, 1¾–3½in wide, with many branches, mostly pendant, spineless and epiphytic. Day flowering in early summer, the flowers are pink and almost cylindrical, the bluish tips scarcely open. Requires filtered light; normal cactus compost; minimum temperature 64°F. *Peru (Leticia, Tarapoto).*

AUTHORS OF CACTUS TITLES

The following is an alphabetical list of botanists, researchers and so on who have given their names to cacti finds, along with their recognized abbreviations.

Akers (J Akers, US botanist)
Alex. (E J Alexander, US botanist)
And. (E F Anderson, US botanist)
Arech. (J Arechavaleta, Uruguayan botanist)
Arp
Audot
Backeb. (C Backeberg, Germany)
Baird (R O Baird)
Barber (J T Barber, British horticulturalist)
Barthlott (W Barthlott, German botanist)
Baum (B R Baum)
Beahm (US horticulturalist)
Benson B W
Benson L (Lyman Benson, US botanist)
Berger (Alwin Berger, German researcher)
Bigel. (J Bigelow, US botanist)
Böed. (F Böedecker, German researcher)
Boiss. (C H Boissevain)
Boom (B K Boom, Dutch researcher)
Borg (J Borg)
Brand. (K Brandegee, US botanist)
Brandegee (T S Brandegee, US botanist)
Brandt (F H Brandt)
Braun (P J Braun)
Bravo (Helia Bravo-Hollis)
Bred. (J A Brederoo)
Bregman
Britt. (see Br. & R.)
Br. & R. (N L Britton & J N Rose, US botanists)
Buchenau (F G Buchenau)
Buin. (A F H Buining, Dutch botanist)
Buxb. (Franz Buxbaum, German botanist)
Byl. (R S Byles, British botanist)
Cactus Pete (US horticulturalist)
Campos-Porto (Brazilian botanist)
Card. (M Cardenas, Bolivian botanist)
Castañ. (M Castañeda)
Cav. (A J Cavanilles, Spanish botanist)
Cels (J M Cels, French horticulturalist)
Clokey (I W Clokey)
Clov. (E U Clover)
Colla (A Colla, Italian botanist)
Cons. (M Console, Italian botanist)
Coolidge (US horticulturalist)
Coult. (T Coulter)
Coult. J M (John M Coulter, US botanist)
Craig (R T Craig, US botanist)
Croiz. (L C M Croizat, US botanist)
Cutak (L Cutak, US cactus authority)
Dams (E. Dams, German librarian)
Dän. (A U Däniker, Swiss botanist)
Dawson (E Y Dawson, US botanist)
DC. (Augustin Pyramus de Candolle, Swiss botanist)
Diers
Dietr. (A G Dietrich, German botanist)
Distef. (C Distefano, Sicilian botanist)
Don G
Donald (J D Donald, British researcher)
Dusén (P Dusén)
Earle (W Hubert Earle, US researcher)
Ehrenb. (Carl Ehrenberg, German authority)
Eichl. (F Eichlam)
Ekm. (H or E Ekman)
Engelm. (George Engelmann, US authority)
Esteves (E Esteves Pereira)
Farwig
Fechs. (H Fechser, Argentinian researcher)
Fittkau (H W Fittkau, Mexican priest)
Fobe (F Fobe, German researcher)
Fischer
Först. (C F Förster, German botanist)
Fort & O'Barr (US horticulturalists)
Foster (Robert A Foster)
Frank (G Frank from Austria)
Frič (Alberto V Frič, Czech cactus authority)
Friedr. (H C Friedrich, German botanist)
Gaertn. (J Gaertner, German botanist)
Gal. (H G Galeotti, Belgian authority)
Gat. (H E Gates)
Gentry (A Gentry, US authority)
Gibson A (A Gibson, US botanist)
Gill. (J Gillies, Scottish authority)
Glass (C Glass, also linked with R Foster)
Goss. (R Roland Gosselin, French researcher)
Graham
Greene (E L Greene, US botanist)
Griffiths (Dr D Griffiths)
Griseb. (A H R Grisebach)
Guill. (A Guillaumin)
Gürke (M Gürke, German botanist)
Haage Jr. (F Haage, German horticulturalist)
Haage W. (Walther Haage, German horticulturalist)
Haw. (Adrian H Haworth, British botanist)
H.B.K. (F A von Humboldt, A A Bonpland, C S Knuth, German/French botanists)
Heath (P V Heath, British authority)
Heese (E Heese, German cactus enthusiast)
Hensl. (J S Henslow, British botanist)
Herrera (F L Herrera y Garmendia, Peruvian botanist)
Hester (J Pinckney Hester)
Hildm. (H Hildmann, German authority)
Hook. (Sir W J Hooker, British botanist)
Hopff. (C Hopffer, German authority)
Horak (B Horak)
hort. (attributed to horticulture)
Hoss. (C C Hosseus, German/Argentinian botanist)
Houghton (A D Houghton)
How (Foon-Chew How)
Hunt (D R Hunt, British botanist)
Hutch. (P C Hutchison, US botanist)
Innes (Clive Innes, British horticulturalist)
Ito (Y Ito, Japanese botanist)
Jacobi (G A von Jacobi, German botanist)
Jacobsen (Hermann Jacobsen, German authority)
Johnson (H Johnson, US horticulturalist)
Jott. (M L Jotter)
Karsten (G K W H Karsten, German botanist)
Karw. (W Karwinsky von Karwin, German botanist)
Kayser (K Kayser)
Ker (J Bellenden Ker-Gawler, botanist)
Kiesling (R Kiesling, Argentinian botanist)
Kimn. (Myron Kimnach, US botanist)
Kladiwa (L Kladiwa, Austrian authority)
Klein (W Klein, US authority)
Knebel (Curt Knebel, German horticulturalist)
Knuth F (F M Knuth, Danish botanist)
Krainz (Hans Krainz, Swiss researcher)
Krzgr. (K G Kreuzinger, Czech authority)
Kupper (W Kupper, German botanist)
L. (Carl von Linné, Swedish botanist)
Lab. (J Labouret, cactus authority)
Lag. (M Lagasca y Seguro, Spanish botanist)
Lagerh. (N G von Lagerheim, Swedish botanist)
Lam. (J B P A de Monet de Lamarck, French botanist)
Lau (A Lau, German/Mexican botanist)
Lauterb. (Karl A G Lauterbach)
Lawr. (G Lawrence, British researcher)
Lehm. (J G C Lehmann, German botanist)
Lem. (Charles A Lemaire, French botanist)
Leon (A P Leon, Cuban researcher)
Liebn. (F Liebmann)
Lindb. (G A Lindberg)
Lindinger (K H L Lindinger)
Lindl. (J Lindley, British botanist)
Linds. (G Lindsay, US botanist)
Link & Otto (Heinrich F Link & Christoph F Otto, German botanists)
Linke (A Linke, German cactus authority)
Liogier
Lodd. (C Loddiges, British botanist)
Loefgr. (A Loefgren, Swedish botanist)
Macbr. (J Macbride)
MacDoug. (T B MacDougall, Scottish/ Mexican botanist)
Marn.-Lap. (J Marnier-Lapostelle, French researcher)
Marsh. (W T Marshall, US researcher)
Mart. (Karl F P von Martius, German botanist)
Mathsson (A Mathsson)
Mey. R (Rudi Meyer)
Meyen (F J F Meyen)
Meyran (J Meyran, Mexican researcher)
Mill. (P Miller, British botanist)
Miquel (F A W Miquel, Dutch botanist)
Mir. (G F Miranda)
Möll. (L Möller, German researcher)
Monmonier T M (US horticulturalist)
Monv. (M de Monville, French cactus collector)
Moore H E (US botanist)
Moran (R V Moran, US botanist)
Morr. E (C J E Morren, Belgian botanist)
Mühlpf. (F Mühlenpfordt, German researcher)
Munz (P A Munz)
Nic. (E A Nicolai, German botanist)
Nutt. (T Nuttal, British/US botanist)
Ok. (O Kafor)
Orc. (C R Orcutt, US botanist)
Ort. G (G Ortega)
Parish (S B Parish)
Parm. (A A Chevalier de Parmentier, French researcher)
Parry (W or C Parry)
Parsons (S H Parsons)
Passmore J (British horticulturalist)
Paxton (J Paxton)
Pfeiff. (Ludwig G K Pfeiffer, cactus researcher and writer)
Phil. (R A Philippi, German/Chilean botanist)
Porter D M (US botanist)
Poselg. (H Poselger, German researcher)
Purp. (J A Purpus, German researcher)
Quehl (L Quehl, German researcher)
Raf. (C S Rafinesque-Schmaltz, Italian /US botanist)
Rauh (Prof W Rauh, German botanist)
Rausch (Walter Rausch, German researcher)
Rauschert (S Rauschert)
Rebut (P Rebut, French researcher)
Regel (E A von Regel, German botanist)
Reichenb. (F Reichenbach, German researcher)
Reppenhagen
Ricco. (V Riccobono, Italian botanist)
Riha
Ritter (F Ritter, German researcher/writer)
Rodr. (J D Rodriguez, Spanish botanist)
Rogozinski
Rojas (N Rojas Acosta)

Rose (see Br. & R.)
Rost (G Rost)
Rowley (Gordon Rowley, British botanist)
Rümpl. (T Rümpler, German researcher)
Runge (C Runge, early-day cactus collector, US)
Sadovsky C
Salisb. (R A Salisbury)
Salm.-Dyck. (Joseph Fürst Salm-Reifferscheid-Dyck, notable author)
Sanchez-Mejorada H
Sand. (H F C Sander, British/German researcher)
Scheer (F Scheer, British researcher)
Scheidw. (J Scheidweiler, Belgian/German plantsman)
Schelle (E Schelle, German plantsman)
Sch. K (Karl M Schumann, German botanist)
Schmoll (F Schmoll, cactus researcher)
Schütz (B Schütz, Czech researcher)
Shurley (E W Shurley, British researcher)
Slaba
Speg. (Carlos Spegazzini, Italian/Argentinian botanist)
Spreng. (K P J Sprengel, German botanist)
Stein (B Stein, German researcher)
Steeg (van der Steeg)
Steele C (US horticulturalist)
Stephans Ed. (US horticulturalist)
Steud. (E G von Steudel)
Steyerm. (Julian A Steyermark)
Stoddart (US horticulturalist)
Taylor N P (British researcher)
Theunissen
Tiegel (E Tiegel, German researcher)
Torrey (J Torrey, US botanist)
Tsuda
Unger (Franz J A N Unger)
Unger G (Gottfried Unger)
van Oosten
Vaup. (F Vaupel, German botanist)
Vellozo (J M da Conceicão Vellozo, Brazilian botanist)
Voll (O Voll, German/Brazilian researcher)
Wagner (J or H Wagner)
Walp. (W G Walpers, German botanist)
Walton F A (US horticulturalist)
Wats. S (S Watson, US botanist)
Weber (Frederic A C Weber, French researcher)
Weingt. (W Weingart, German researcher)
Wendl. (J C Wendland, German cactus authority)
Weniger H L (US botanist)
Werd. (E Werdermann, German botanist)
Wessn. (W Wessner, authority on South American cacti)
Willd. (K L Willdenow, German botanist)
Wright Y
Wressey Cocke
Zecher
Zimm. (F or W Zimmermann)
Zucc. (Joseph G Zuccarini, German botanist)

GLOSSARY

Acuminate Tapering to a point.
Acute Pointed.
Aerial root Roots produced on stems above ground, usually in *epiphytes*.
Areole The cushion-like growing point of a cactus.
Axil The angle between stem and branch.
Bract A modified or reduced leaf.
Bristle A stiffened hair.
Calcareous Of or containing lime or chalk.
Callus New tissue which forms over a cut.
Calyx The ring of *sepals* that surrounds the petals of a flower before it opens.
Capsule The dry seedcase.
Caudex The woody or fleshy "stem" developing at or below ground level, with growing points.
Caudiciform Having a *caudex*.
Central spines Those arising from the center of the *areole*.
Cephalium A densely woolly, bristly "head" formed on certain cacti.
Cordate Heart-shaped.
Corolla The collective name for the petals.
Corona The center of the flower surrounding the *stamens* and style – the crown.
Cristate The *monstrosus* growth development in plants.
Cultivar A hybrid produced by cultivation.
Dentate Toothed.
Diurnal Day flowering.
Endemic Regularly or only found in (a certain region or country).
Entire Smooth margins or edges.
Epiphyte Plant growing on another, but not parasitic.
Exotic Usually referring to tropical or sub-tropical plants.
Exserted Protruding from.
Family Taxonomic grouping of similar genera.
Farinose Having a mealy appearance.
Floccose Woolly-hairy.
Form (fma.) A more or less minor variation of a species or variety.
Genus Taxonomic grouping of plants with similar characteristics. Represented by the first element in a botanical name.
Glabrous Smooth – without hairs or wool.
Glaucous Covered with a wax-like bloom.
Globose Globular, spherical.
Glochid Tuft of bristly hairs on the areole.
Habitat The natural home of a plant.
Head A close-set group of flowers.
Humus Decomposed organic matter.
Hybrid A plant created by crossing two different *species* or varieties.
Inflorescence Arrangement of flowers of plant; collective flower of plant.
Internode Section of stem between two nodes.
Joint A section of stem.
Lateral A shoot or branch coming out of the main stem.
Latex A milky sap exuding from stems.
Margin Edge of petal.
Monotypic The only species within a *genus*.
Monstrose An abnormal, irregular stem growth.
Naturalized Referring to plants flourishing away from their natural habitat.
Nomen Nudum Abbreviated n.n. A title lacking valid description.
Obtuse Blunt or partially rounded.
Offset Section of plant capable of rooting.
Ovate Broadly elliptic – egg-shaped.
Ovary Lower part of a flower, containing the ovules.
Panicle Many-flowered *inflorescence*.
Pectinate Arranged in a comb-like manner.
Pendant Inclined downward; hanging.
Perianth Outer part of flower.
Plumose Feathery – covered with fine hairs.
Procumbent Growing along the ground.
Prostrate Low growing.
Pseudocephalium Usually a lateral *cephalium*.
Pubescent Covered with fine, minute hairs.
Radial spines The *spines* arranged around the edge of the areole.
Recurved Curved backward.
Reflexed Curved downward.
Resing period The period of dormancy in a plant.
Ribs Sections of the stem forming raised ridges, usually more or less vertical.
Saxicolous Refers to plants growing on rocks.
Scales Thin, leaf-like structures.
Sepals Leaf-like structures surrounding and protecting the petals of a flower. Collectively known as the *calyx*.
Serrate Saw-edged.
Simple Solitary.
Sp.n. *Species nova:* newly discovered.
Species An individual or closely related group of plants within a genus.
Spines Thorn-like modified leaves.
ssp. Sub-species: plants with similarities but differing in certain features.
Stamen The male fertilizing organ of flowering plants, including the anther, which contains the pollen.
Stigma The tip of the style, on which the pollen is deposited.
Sub-genus A division of a genus.
Succulent Any plant which stores water in fleshy stems and/or leaves.
Synonym Title already known under a different name.
Taxon Taxonomic group, e.g. genus.
Taxonomy Principles of classification, in the natural sciences.
Terete Smooth and rounded.
Tube The tubular section of the flower above the ovary, bearing the petals, etc.
Tuber Fleshy, swollen section of a root or underground stem, storing food for the plant.
Tubercle Small wart-like swelling or growth.
Type The principal example of a genus or species.
Undulate Having wavy edges.
Variety Any distinct form of species or *hybrid*.
Viable Able to survive and develop.
Wart An irregular growth (see *tubercle*).
Whorl Ring of leaves or branches surrounding the stem of a plant.
Wool Dense covering of fine, soft hairs.
Zygomorphic Having one single plane of symmetry.

USEFUL ADDRESSES

The following is a list of societies and current publications specializing in (or frequently featuring) cacti and other succulent plants

AfM
Mitteilungsblatt des Arbeitskreises fuer Mammillarienfreunde e. V.
Erikastrasse 9, D6650 Homburg/Saar, West Germany

AGAVE
quarterly Magazine of Desert Botanical Garden, 1201 N. Galvin Parkway, Phoenix, AZ 85008. (See also *Saguaroland Bulletin)*

ALOE
published by the South African Aloe & Succulent Society, Box 1193, Pretoria 0001, Republic of South Africa

ANACAMPSEROS
Australian National Cactus & Succulent Journal
Succulent Publications of South Australia, P.O. Box 572, Gawler, South Australia 5118

ASKLEPIOS
published by the International Asclepiad Society, 6 Woodland Rise, Wakefield, West Yorkshire WF2 9DL, UK
American rep: Dana Craig, 67 Hill St., Norwood, MA 02062

BALTIMORE AREOLE
published by the Cactus & Succulent Society of Maryland, 20 Perhall Court, Baltimore, MD 21236

BOTHALIA
Botanical Research Institute, Div. of Ag. Info.,
Dept. of Ag. Tech. Serv., Private Bag X144, Pretoria, Republic of South Africa

BRADLEYA
Yearbook of British Cactus & Succulent Journal
Herbarium, Royal Botanical Gardens, Kew, Richmond, Surrey TW9 3EA, UK

BRITISH CACTUS & SUCCULENT JOURNAL
published by the British Cactus and Succulent Society, 8 Stonehouse Close, Cubbington, Leamington Spa CV32 7LP, UK. (See also *Prickly Paragraphs)*

BULLETIN
published by the Mesembryanthemum Study Group
American rep: Steven Brack, Mesa Garden, P.O. Box 72, Belen, NM 87002

BULLETIN OF THE EPIPHYLLUM SOCIETY OF AMERICA
4400 Portola Ave., Los Angeles, CA 90032

CACTACEAS Y SUCULENTAS MEXICANAS
2a de Juarez 42, Col. San Alvaro 02090, Tacuba, Mexico 17 DF, Mexico

CACTOCHAT
newsletter of the Cactus and Succulent Society, 3 Kinsey Terrace, Christchurch 2, New Zealand

CACTUS & SUCCULENT JOURNAL OF NEW SOUTH WALES
published quarterly. 542 Grand Junction Rd., Northfield, S.A. 5085, Australia

CACTUS & SUCCULENT SOCIETY OF AMERICA NEWSLETTER
3602 W. 157th St., Lawndale, CA 90260

CACTUS CHATTER
published by the Oregon Cactus & Succulent Society, 27821 SE Sun Ray Drive, Boring OR 97009

CACTUS CHRONICLE
bulletin of the Los Angeles Cactus & Succulent Society, 5149 Jeffdale Ave., Woodland Hills, CA 91364

CACTUS COMMENTS
New York Cactus & Succulent Society, 312 W. 49th St., New York, NY 10019

CACTUS CORNER NEWS
Fresno Cactus & Succulent Society, 3015 Timmy, Clovis, CA 93612

CACTUS COURIER
San Jose Cactus & Succulent Society, 2568 Crystal Dr., Santa Clara, CA 95051

CACTUS DIGEST
Henry Shaw Cactus & Succulent Society, Missouri, 2004 Ridgedale Dr., High Ridge, MO 63049

CACTUS FACTUS
Toronto Cactus & Succulent Society, 24 Criscoe St., Toronto, Ont., M6N 3Y9 Canada

CACTUS STICKER
Las Vegas Cactus & Succulent Society, 3656 Lakeshore Lane, Las Vegas, NV 89115,

CENTRAL SPINE
Central Arizona Cactus & Succulent Society, 3102 W. Anderson Dr., Phoenix, AZ 85023

THE CHILEANS
32 Forest Lane, Kirklevington, Yarm TS15 9LY, UK

COS (Cacti & Other Succulents)
8591 Lochside Drive, Sidney, B.C. V8L 1M5, Canada

ECHINOCEREANAE
the Official Bulletin of the Echinocereanae Society, 22 Collina St., Mitcham 3132, Victoria, Australia

EPIPHYTES
Journal of the Epiphytic Plant Study Group
editor: John Horobin; American rep: Seymour Linden; subscriptions to Chris Dawson, 1 Belvidere Park, Great Crosby L23 0SP, UK

EUPHORBIA
yearbook published by Strawberry Press, 227 Strawberry Drive, Mill Valley, CA 94941

EUPHORBIA STUDY GROUP
101 Beach Road, Hartford, Northwich CW8 3AB, UK
American rep: Herman Schwartz, 227 Strawberry Drive, Mill Valley, CA 94941

ESSEX SUCCULENT REVIEW
Quarterly journal
49 Chestnut Glen, Hornchurch, Essex, UK

FLOWERING PLANTS OF SOUTH AFRICA
published by Botanical Research Institute, Div. of Ag. Info., Dept. of Ag. Tech. Serv., Private Bag X144, Pretoria, Republic of South Africa

FOUR C'S
Confederation of Country Cactus Clubs, Australia, 542 Grand Junction Rd., Northfield, S.A. 5085, Australia

USEFUL ADDRESSES

GAZETTE
journal of Peperomia and Exotic Plant Society,
P.O. Box 1033, Fort Richey, FL 34673

HAWORTHIAD
journal of the Haworthia Society,
Wades Barn Cottage, Buckden, near Skipton,
N. Yorkshire, BD23 5JA
American rep: Dennis Plath, 689 Estonia
Court, San Jose, CA 95123

HOBBY GREENHOUSE
journal of the Hobby Greenhouse
Association, 8 Glen Terrace, Bedford, MA
01730

HOYA SOCIETY/WEST COAST
PO Box 5130, Central Point, OR 97501

INDOOR GARDEN
newsletter of the Indoor Gardening Society
944 S. Munroe Road, Tallmadge, OH 44278

INTERNATIONAL CACTUS &
SUCCULENT SOCIETY
P.O. Box 691, Breckenridge, TX 76024

THE JOURNAL OF THE ECHEVERIA
SOCIETY
Camino Real a Calipan Km 3, Barranca de las
Minas, 75980 Coxcatlan, Pue., Mexico

KAKTEEN/Sukkulenten
Pillnitzer Strasse 26, Dresden 8019, East
Germany

KAKTEEN UND ANDERE SUKKULENTEN
Ahornweg 9, D-7820 Titisee-Neustadt, West
Germany

KAKTOS KOMMENTS
publication of the Houston Cactus &
Succulent Society,
11015 Sage Orchard Lane, Houston, TX
77089

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Fe de Erratas de "The Illustrated Encyclopedia of CACTI"

Esta lista fue confeccionada por su autor, Charles Glass, y publicada en internet. Si bien corresponde a la primera edición de la obra, todavía pueden encontrarse algunos errores en la segunda edición (disponible en la biblioteca del CCCC).

Página 24: Ariocarpus kotschoubeyanus cristata, debe leerse: cristatus o forma crestada.
Página 26: La foto de la derecha muestra dos variedades y no una: Arrojadoa aureispina var. aureispina (la mas grande) y var. anguinea (la misma que se muestra en la foto del medio).
Página 28: Arthrocereus campos-portoi es la correcta ortografía.
Página 31: Astrophytum myriostigma var. potosinum, no var. strongylogonum.
Página 31: Astrophytum híbridos de C&J Nursery y no de Tegelberg.
Página 32: Austrocephalocereus lehmannianus debe ser llamado Micranthocereus purpureus (Guerke) Ritter (sinonimo: Austrocephalocereus purpureus, A. lehmannianus)
Página 37: Buiningia es un subgenero bajo Coleocephalocereus, entonces serían Coleocephalocereus aureus Ritter and C. aureus ssp. brevicylindricus Buin.
Página 37: La foto no pertenece a un Calymmanthium substerile sino a un Cereus sp.
Página 41: La planta identificada como Cereus peruvianus es un Trichocereus peruvianus.
Página 42: Cipocereus aurisetus debe ser Pilosocereus aurisetus (Werd.) Byl. & Rowl.
Página 44: El nombre correcto del autor es P.J. Braun
Página 46: El sinónimo debe ser Buiningia brevicylindrica var. elongata Buining.
Página 47: Autor correcto Coleocephalocereus goebelianus (Vpl.) Buin.
Página 54: Nombre correcto es Escobaria runyonii o Coryphanta robertii, y no Córyphanta macromeris var. runyonii.
Página 62: La planta identificada como Discocactus heptacanthus es D. Ferricola Buin & Bred.
Página 63: El nombre correcto de Discocactus tricornis es D. placentiformis.
Página 64: La planta identificada como Disocactus eichlamii es aparentemente un híbrido y posiblemente ni siquiera un Disocactus.
Página 64: La planta identificada como Disocactus alatus no es correcta.
Página 65: Las fotos de Disocactus nelsonii y D. nelsonii var. hondurensis estan intercambiadas.
Página 65: Lo correcto es Disocactus macranthus, no macranta.
Página 67: Echinocactus ingens y E. palmeri son sinónimos de E. platyacanthus.
Página 80: Echinofossulocactus coptonogonus fma. cristatus o mejor forma crestada.
Página 101: La foto del Epiphyllum crenatum está de costado, el lado derecho es en realidad la parte de abajo.
Página 102: Epiphyllum ruestii, no se tienen conocimientos suficientes de esta especie.
Página 105: La foto de la flor del Eriocereus jusbertii esta de costado.
Página 109: Escobaria roseana y no roseanus.
Página 111: Eulychnia iquiquensis y E. saint-pieana , fotos intercambiadas.
Página 112: La foto de la izquierda es Facheiroa tenebrosa esta planta fue colectada por Rauh y descubierta por Esteves y Braunen 1987. La foto del medio es un Pilosocereus braunii Esteves.
Página 112: La planta identificada como Facheiroa deinacanthus es F. chaetacantha (Ritter) Braun & Esteves.
Página 113: El autor de la Xferobergia es Charles Glass.
Página 120: El autor del Ferocactus recurvus var. greenwoodii es Glass y no N.P. Taylor, y el autor de la combinación bajo sinónimo F. latispinus var. greenwoodii (Glass) es N.P. Taylor.
Página 122: Fereocactus echidne var. victoriensis (Rose) Lindsay es correcto. Ferocactus victoriensis Rose debe ser listado como sinónimo.
Página 122: Ferocactus wislizenii var. tiburonensis Lindsay es el taxón reconocidoy el autor correcto y no "(Lindsay) Backeberg", F. tiburonensis (Lindsay) Backeberg es el synónimo y autor correctos.
Página 123: Gymnocactus gielsdorfianus es correcto y no gielsdorfiana.
Página 129: Gymnocalycium mihanovichii var. albiflorus y no var. friedrichii, abajo a la izquierda G. mihanovichii var. friedrichii.
Página 129: Gymnocalycium mihanovichii var. friedrichii cv. Nishiki es variegado y no crestado.
Página 129: Gymnocalycium mazanense es la planta de la izquierda la de la derecha es G. saglione.
Página 132: Gymnocalycium schroederianum van Osten y no var. osten.
Página 141: En la foto solo se ven dos plantas y no tres como se lee en el epígrafe. La de la izquierda es Leocereus estevesii Braun, y a la derecha L. Bahiensis var. exiguospinus Braun & Esteves.
Página 148: XLoviopsis "Dainty Bess" es un hibrido de Johonson y no de Tagelberg.

gina 152: Tephrocactus glomeratus y no Maihueniopsis glomerata.
gina 154: Mammillaria balsasoides es un sinónimo de M. beneckei.
ágina 155: La foto de Mammillaria bocasana en habitat está invertida verticalmente.
Página 158: El sinónimo es Mammillaria aguirrei nomen nudum y no nom nuda.
Página 166: Mammillaria heyderi invertida verticalmente.
Página 177: Mammillaria rekoi es la variedad leptacantha Lau.
Página 179: El nombre correcto es Mammillaria schiedeana var. dumetorum.
Página 188: Borzicactus violaceus o Matucana violacea.
Página 190: Nombre completo es Melocactus oreas ssp. cremnophilus fma. erythracanthus(Bum. & Bred.) Braun.
Página 194: Ahora Cereus campinensis(Backeberg & Voll) Braun.
Página 195: XMyrtillenocereus hybridus es la misma cruza que la de la página 280(XStenomyrtillus)
Página 200: La planta identificada como Neoporteria eriocephala es una Parodia.
Página 205: Notocactus purpureus es una Neoporteria o Neochilenia sp.
Página 208: Las flores que se muestran son de Opuntia brachyclada y no O. Basilaris var. brachyclada.
Página 209: El sinónimo Grusonia bradtiana es incorrecto.
Página 214: Opuntia falcata Ekm. & Werd. es el autor correcto. F. Knuth fue el autor de la conbinacion en Consolea.
Página 215: Las flores son de Tephrocactus decipiens no de Opuntia imbricata.
Página 222: Debe ser Opuntia saxatilis var. pomosa Braun & Esteves.
Página 224: Debe ser Opuntia tunicata (Lehm.) Link & Otto en Pfeiff.
Página 239: La localización del Pediocactus simpsonii var. robustior es centro norte de Oregon.
Página 243: Las flores de Pereskia stenantha no son nocturnas.
Página 243: Es Pereskia nemorosa y no P. sacharosa.
Página 243: Pereskia zinniiflora es originaria de Cuba y no de Mexico. El sinónimo es Rhodocactus cubensis.
Página 244: Las flores son de Pilosocereus aurilanatus y no de albisummus.
Página 245: Las flores son de Pilosocereus albisummus y no de aurilanatus.
Página 250: La foto es de Pseudopilocereus pentaedrophorus(Lab.) Byl. & Rowl. Pseudopilocereus ulei debe ser Pilosocereus ulei(K. Schum.) Byl. & Rowl.
Página 257: La planta identificada como Rebutia padcayensis es un Echinocereus.
Página 260: Rhipsalis cassutha debe ser R. baccifera.
Página 264: La foto del Rhipsalis sulcata está acostada.
Página 269: Schlumbergera truncata var. delicata, no delicatus.
Página 276: Siccobaccatus estevesii ssp. grandiflorus, no estevesii.
Página 280: ver corrección pagina 195.
Página 282: Las fotos de Sulcorebutia crispata and S. Glomeriseta estan traspuestas.
Página 290: El nombre correcto es Thelocactus bicolor var. flavidispinus(Backeberg), pero esa no es la variedad que se muestra.
Página 291: Thelocactus heterochromus es T. hastifer, las misma planta de la página 290. La fotografía no corresponde a Thelocactus hexaedrophorus sino a Coryphantha cf. Elephantidens.

Ing. Agr. Guillermo Smith.

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